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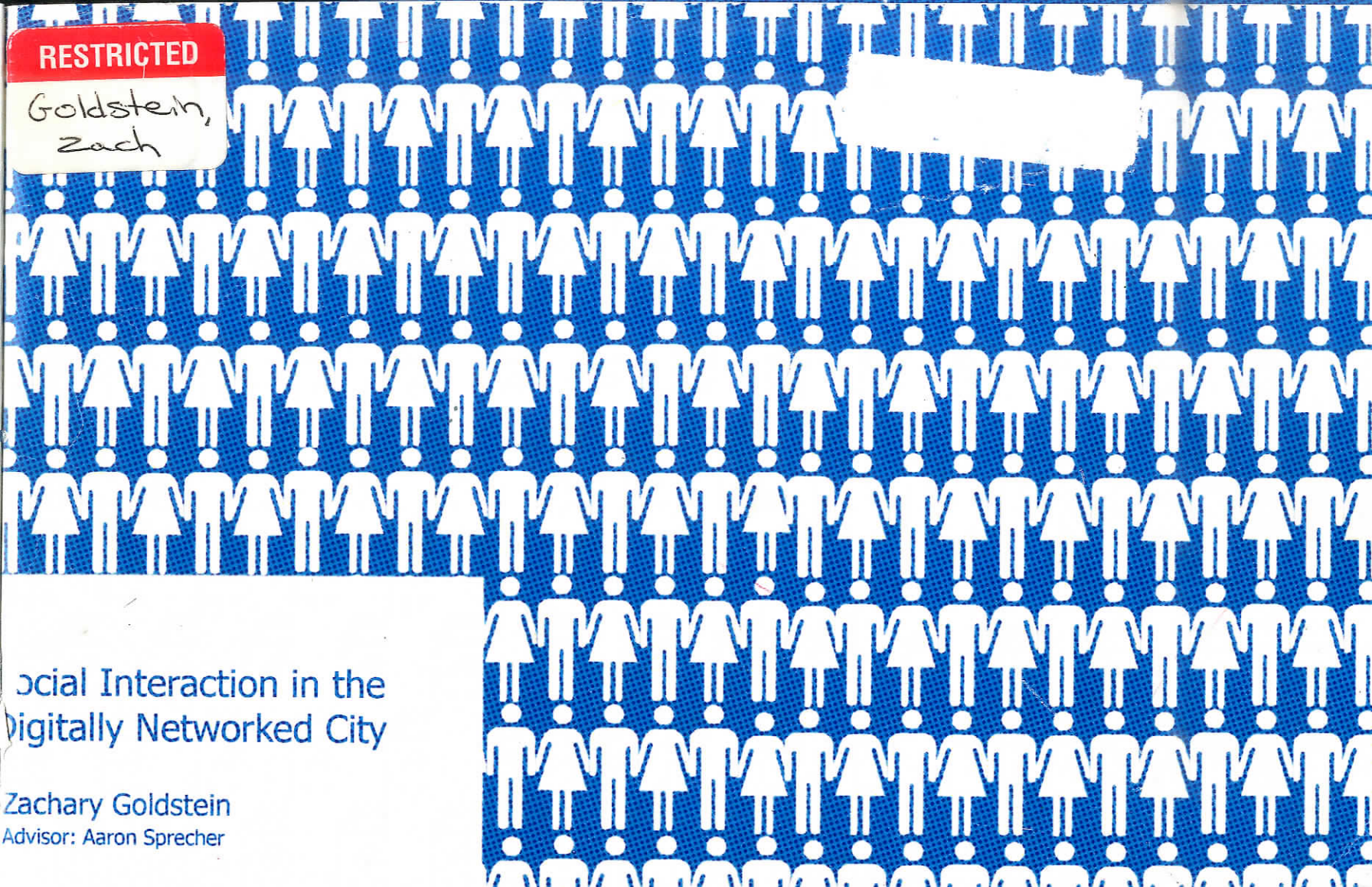
Social Interaction in the Digitally Networked City.

Zachary Goldstein



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Zachary Goldstein
Advisor: Aaron Sprecher

Abstract

There is an underlying digital network that exists in our contemporary cities that affects every aspect of urban life. Technology has changed the way we perceive and activate space, and communicate with one another.

Computers have introduced us to a reality where all the information we could ever want is available anywhere at any time. Everything from shopping to meeting new people has become a mouse click away. The question is how can the computer act as a mentor in our physical world? (Mitchell)

Public space will always be critical in city planning because it fosters human interaction. No matter how advanced our technology becomes, nothing will be able to replace talking to someone in person or participating in live events. "Our physical, material existence is one of the most distinguishing characteristic's of our humanity and ultimately our cities (Townsend)."

Union Square is a public space in New York City that is defined by both the commercial space that surrounds it and the subway system that exists below it. The subway station serves the west side lines (NRQ), the east side lines (456), and Brooklyn (L). The underground platform exists as a labyrinth of long hallways where everyone is pushing their way out. The park acts as an oasis that exists among the chaos of the city. Pushed along the perimeter are retail stores that completely surround you with exception of a few restaurants.

There is very little overlap between the park and the subway station below it. They represent two distinct zones that never come in contact with one another. The surface of the park needs to be redesigned to allow the park to filter into the subway station and to create places for activity on both ground planes. Using new technologies temporal events can be created that disappear and reappear depending on how the site is being used. A local network would be created to allow for an overlap of information to occur between the industry and residences in the area. The retail stores, residences, offices, and farmers market surrounding the site would be digitally networked into the park and help in the development of a digital/physical hybrid community.

Historical Case Studies: Mapping the City

The Situationist City

Archizoom's No-Stop City

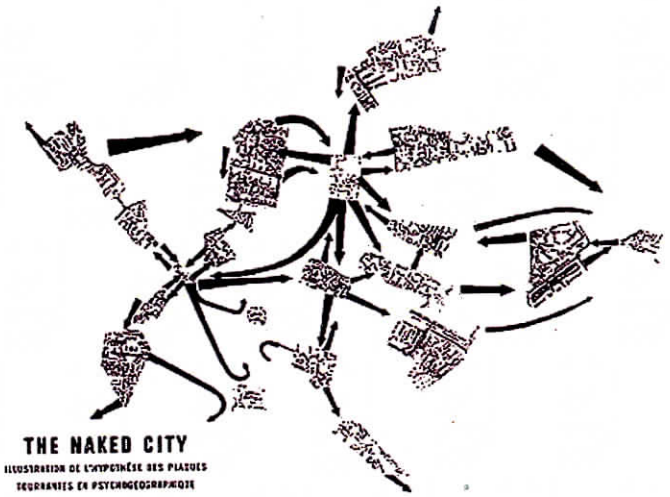
The Situationist City

"Architecture is the simplest means of articulating time and space, of modulating reality, of engendering dreams." Ivan Chtcheglow, 1953

A map of a city can try to tell the story of the place by giving us hints of density, public space, commercial versus residential areas, and transportation routes. Communard Reclus recognized geography as "nothing but history in space," and developed a concept of social geography, which is based on the idea of experiencing a place first hand in order to understand its character. Social geography theorized space as a product of society. This concept is related to the theories of the Situationist movement in the 1950's. Psychogeography was the means of mapping cities that the Situaitonists used.

Psychogeography is defined as "the study of the precise laws and specific effects of the geographical environment on the emotions and behavior of individuals (Sadler)". The system of measurement used by the Situationists to develop psychogeoraphical maps were called dérive, which literally means wandering or drifting. These "drifts" were the choice of route taken as they wandered through the city. They analyzed factors that would affect mood and behavior through the course of their drifts and tried to explain what the driving forces affecting them were. This exercise challenged the psychogeographer to use their power of imagination to experience the urban environment using political and theoretical motivations. (Sadler).

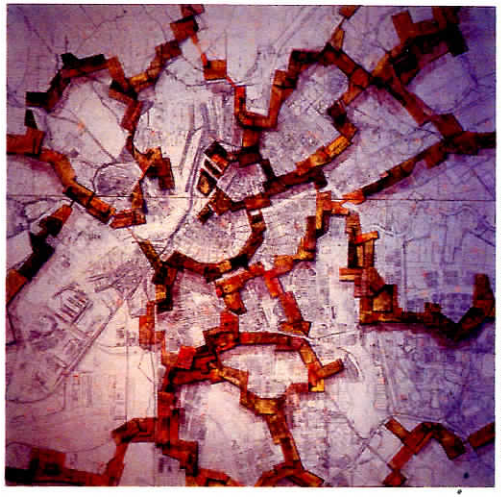
New York City exists as a series of grided transportation routes that cuts through the built environment of the city. Looking at a map of the city you can understand that it is an island that is made up of a two hundred foot by eight hundred foot lots of land that cover the entire city. You have no perception of what the atmosphere is like within each of those plots of land or around them. There is no distinction between well-developed areas and poorer areas. From a plane you a have a better idea of what the character is like because you can



perceive the types of buildings in each of the area and tell from the lights how many people occupy that area. In order to understand the city fully you need to walk around in it.

Experiential walks are a great way to understand the context of a site that you wish to design a building for. The site has a certain character and architects should look to improve it by analyzing the atmosphere of the surrounding area. There are social effects that designers cannot perceive in maps or in statistics that need to be understood by taking part in them first hand. The Situationalist movement is based on this principle. Instead of designing space, they are trying to create situations within space through the use of their architecture.

In too many cases in our contemporary cities architects are becoming more concerned on how a building looks as apposed to how it operates. There comes a point when you need to realize that you are not just designing an icon for a city, but a space, which people have to occupy. Space is a powerful thing and can be used to



New Babylon

encourage social encounters and to can even change your mood.

Situationist Raoul Vaneigem states, " the ideal urbanism is the projection in space of a social hierarchy without conflict. Roads, lawns, natural flowers, and artificial forests lubricate the working subjection and render them amicable (Sadler)." The Situationist's view of creating a utopian urban environment focused on creating a place where work and play were promoted equally.

Debord's 1959 " Situationist Thesis on Traffic," states "Zoning that takes account key functions-housing, work, recreation-will bring order to the urban territory. Traffic, the fourth function, must have only one aim: to bring the other three usefully into communication." (Sadler). The idea is to create an environment, which eliminates the distinction between work and leisure, and public and private.

There are instances within New York City were the threshold between work and play is made permeable. Certain private building like the Sony building has established public spaces in them to attract street goers into the building. Also located in this building is a commercial store, a café, as well as a museum of Sony's history.

The most crucial break between work and leisure has come our way thanks to wireless technology. With wireless technology a park becomes more than a park but a place to do work, chat online with friends and send out E-mails. There has been a growing trend in linking the public parks in various cities with the Internet. Vienna, Austria, a historical city in western Europe has free wireless internet in all of its parks and Wireless magazine sponsor's free wireless internet in Union Square. The trend is proof that our cities are evolving in a way that in the future their will be very little distinction from the spaces where you work and the spaces where you play.

Archizoom's No-Stop City

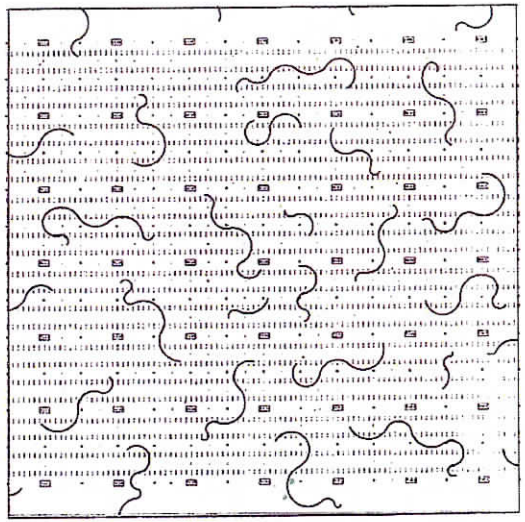
"What is a city? You could say that a city is a bath every 100 meters, or a computer every 40 meters, etc. These are quantifiable data making up a city." Andrea Branzi

The mid to late 1960's existed as time when the power of commuting and global networking was realized to be a major force that would reshape society. No longer were advanced economies interested in physical objects. The new focus was on technology in the form of services, information and media. Some architects embraced this new love of computing and based their designs on it. Archigram was a group of futurists that created new realities based on new concepts developed from ideas of technology such as clip-on technologies, throwaway environments, and plug-in cities. Other schools of architecture rejected technology and began studying environmental design.

During this time Architettura Radicale, a movement that questioned modernism as well as technological solutions for architecture had emerged. Archizoom Associati and Superstudio began it through collaboration in the late 1960's. They criticized the hip consumerism emerging in design during this period.

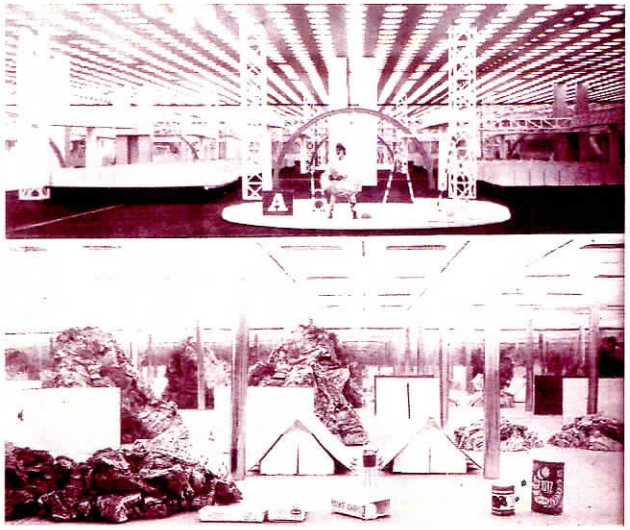
Archizoom saw the death of architecture looming in the wake of global telecommunications and developed the No-Stop City in response to events that were taking place at the time. The No-Stop city analyzed how the spread of trade and commerce was going to cause a reprogramming of the historical nature of the city because of the onslaught of electronic media.

Andrea Branzi, the head of the No-Stop City project states that, "In a programized society, the management of interests no longer needs to be organized on the spot where trade is to take place. The complete penetrability and accessibility of the territory does away with the terminus city and permits the organization of progressive network of organisms of control over the area."



The No-Stop City exists with no external or internal borders, where there is no division of zones or functions. It was a city without architecture. Archizoom modeled their idea of the futurist city off of the factory and the supermarket having, "optimal urban structures, potentially limitless, where the human functions are arranged spontaneously in a free field, made uniform by a system of micro-acclimatization and optimal circulation of information. The 'natural and spontaneous' balance of light and air is superseded: the house becomes a well-equipped parking lot. Inside it there exists no hierarchies nor spatial figurations of conditioning nature (Branzi)." The ideas behind the No-Stop City allow architects to look behind the physical nature of architecture and try to use technology to redefine how are cities will work.

The problems of architecture and technology that Archizoom had addressed are still present in our society. We are now entering



a world that is ruled by digitally mediated networks. We are free to roam our cities with our laptops and cell phones and work, play and be entertained anywhere. Technology has removed the need for site to involve program because we constantly walk around with our own program.

E-commerce seems to be taking over our physical realm. I-Tunes, a digital music store, is now competing with physical stores and seems to be winning. They have sold more music then Tower Records in 2005 and now Tower Records is forced to close down stores. This will be a growing trend as e-commerce becomes easier and safer to use. How then will our cities work and what does this mean for architecture?

The next step for architects lies in the integration of technology into space. Technology can be used as a mediator for people in the physical world. Tower Records is losing the battle, but there is still a need for it to exist in our physical world. The store brings people together who share an interest in music and allows a space for them to share ideas and to sample new music before purchase in a social environment.

New York City is a No-Stop City, but it doesn't look like a parking lot. Parking lots do not function as social spaces and technology will never be able to take away the fact that we are human and seek physical interactions from other people.

Integration of Technology into Architecture

Interactive Technology

Redefining Activities

Interactive Technology

Technology has invaded all aspects of life in our contemporary cities. It has changed the way we perceive and activate space. We live in an anytime-anywhere environment where information is regularly available. Information technology allows people to interact remotely, asynchronously, and indirectly. We carry, wear and embed digital systems into our environment. William J. Mitchell, asks the question how can the computer act as a mentor in our physical world? The answer lies in interactive technology.

An interactivity pioneer Brenda Laurel declared in the early 1990's, "the real significance of computing has become its capacity to let us take part in shared representations of action (Laurel)." The Internet has become a forum for people to voice their opinions, on Blogs, which are web logs, and connect people with similar interests through Internet communities such as Myspace.com and Facebook.com.

The idea of computing has now entered a stage where it's affecting our physical realm. According to Intel, already more than 95 percent of devices containing microchips do no present themselves to their users computers (Intel.com). Intel has stated, "at every level and in every conceivable environment, computing will be fully integrated within our daily lives (intel.com)." In the near future we will not need to carry our computers around with us, instead we will carry configurable generic devises, either though handheld devices such as cellphones or embedded into our environment. Looking at creating local "hot spots" will help bring interactive design into architecture. No longer will architecture just be made with space and objects, but will be able to create situations.

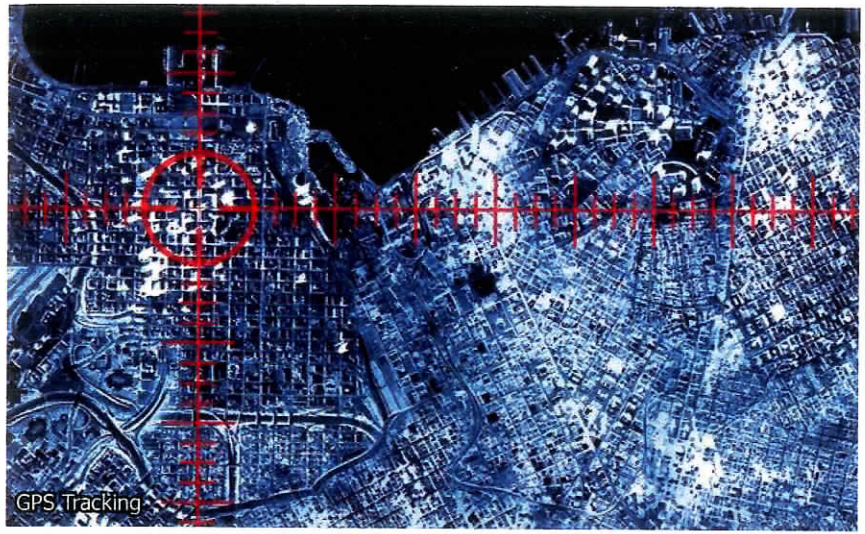
Architecture creates a space for people, ideas, and recourses to flow. Where these flows come together is where a major social space develops. Architecture has always been an outlet for these flows to meet. More recently these flows have also included digital networks. Digital network flows depend on a more personal set of

Hand Scanner

standards. It becomes about who you are and what you would like to do rather than just walking through a city aimlessly. Digital networks become solely about the exchange of information and because of this, it will be never be able to replace physical infrastructure, but instead augment the way in which it is used.

Sociologist Manuel Castells explains, "The space of organizations in the information economy is increasingly space of flows.... However, this does not imply that organizations are placeless. On the contrary, we have seen decision-making continue to be dependent upon the milieu on which metropolitan dominance is based; that service delivery must follow dispersed, segmented, and segregated markets... Thus each component of the information-processing structure is place oriented (Castells)."

By combining digital networks with physical environments we are able to reconstruct what architectures role in society is and create interactive spaces. These spaces will emphasize usability, perfor-



mance, and inhabitation and avoid being form driven. "Interaction design takes advantage of physical contexts as frames and cues for its social functions. It begins to reflect scale and type in its pursuit of site-specific technology, context-aware systems, and location-based services. It shifts focus from technological novelty to more enduring cultural frameworks (McCullough)."

Mark Weiser's stated, "The most profound technologies are those that disappear. They weave themselves into the fabric of everyday life unit they are indistinguishable from it (Weiser)." Pervasive computing or computers integrated into the environment could help in reconstruction our society against buying personal computers. Not everyone needs a computer; especially in a world where our cell phones have more computing power than a campus mainframe did in the 1960s (Gaetano). If we are able to organize a system in which people are able to retrieve information from certain places, we could make order of cyberspace in our physical world.

The idea is to create what Don Norman calls "information appliances." The goal behind this concept lies in simplicity, , "Design the tool to fit the task so well that it becomes part of the task, feeling like a natural extension of the work, a natural extension of the person." These information appliances could be placed at various points throughout the city and be networked and able to share information. This could help in limiting the number of devices we need to carry around with us and help redevelop social centers.

There are many different ways in which we can use the computer to mediate our physical world. The way we perceive architecture in the future will change because of new technology. Its is important to understand the devices that companies and governments are using in order to either monitor our world or to create new types of spaces and programs.

Sensors

A sensor responds to a change in state. Sensors mixed with microprocessors can be used to take and hold statistical information from a place. From this information we can study patterns of activity and develop spaces that are more conducive to that place.

Tags

Tagging is being able to label individual people in a given space. By knowing who is in place and what they are doing is a critical part of architecture and for many other occupations. Tagging is projected to become a billion dollar industry this decade. A radiofrequency identification tag (RFID) cost less than a dollar in 2001, and is expected to cost less than a penny within a few years (McCullough).

We all carry some form of identification with us at all time, whether it be a school ID, driver's licenses or even credit cards. Each one of these cards has information about us written on it or available via a magnetic strip. In early 2002, Hong Kong introduced smart ID cards that included biometric information such as a thumbprint, as well as a picture, birthdate, and address (CNN). These cards are still something you carry with you and are not available to the public.

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Smart ID

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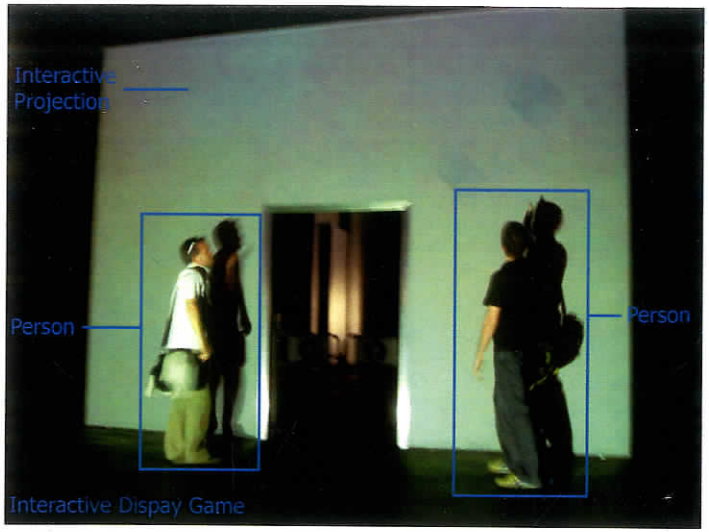
Biometrics is a new type of tagging that is making its way into our everyday life. This deals with using our biological structure for use of being labeled. Ethentica.com is the first company to offer affordable authentication devises for around $200. In 2001 the company began offering fingerprint security to individual data and applications, as a substitute for remembering and typing (McCullough).

Tagging could be a great source of information in informing public space. We can use this technology to bring people of like interests together. Your credit card in a sense knows who you are, by breaking you down by purchases you've made and where you made them. This information can be fostered into developing a new type of



public space, one that is geared towards the individual. When applying this concept to architecture it is important to understand how to empower and not to overwhelm.

Interactive displays

Interactive displays are surfaces, which understand our relation to it. It brings pervasive computing into architecture. These devises show up in retail kiosks, where you are able to move through information on a screen just by touching it. They are also used for entertainment; where you are able to play games through a projected image, where that image understands you position in space.

This technology alone could completely change the way in which space is created. Imagine if this technology was put into the ground in which we walk on and it becomes interactive. The majority of city dwellers carry some type of position system with them at all times, be it a computer or a cell phone. Anyone one who carries these devices in such an interactive field could become a live cursor and their actions could change the form of that space.

Global Positioning Systems (GPS)

GPS is a satellite navigation system. GPS Pioneer Per Enge has seen the market for this technology grow from 40,000 GPS units, which were mostly applied in military applications, to 100,000 units being produced each month (Per Enge).

When coupled with tagging, GPS allows things that move around to be tracked. This seems like a frightening thing, because the first thing we think of is security applications. Do we really want to be tracked constantly by people we do not know? Of course not, but there are implications were this technology can be used in a positive way. Dodgeball.com is a service that uses your cellphone to link you to your friends and their friends in the physical world. Using GPS your phone knows your location and is able to tell you when someone you know is close by. It also helps take the concept of the Internet community and brings it into the physical world.

With the cost of GPS chipset falling $10, and with the repeal of its resolution reduction for nonmilitary applications as of April 2000, the way for computers to annotate the physical world has been cast wide open (McCullough).

It is important to remember that inventions need to play off conventions. We can't embed technology into out spaces that no one will use or that will make spaces more difficult to function in. Locations and type have to matter when applying these technologies to the physical world.

Redefining Activities

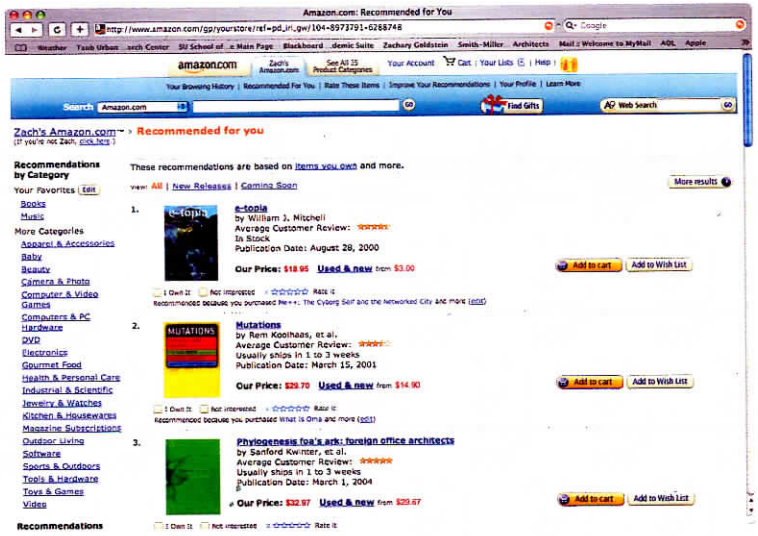
Eating/Drinking

Restaurants and bars are more than just places to go get food and drinks, but represent an intimate social space between couples or a group of people. The goal of a restaurant is to have good food and atmosphere and for the service to seem to disappear. Through the use of wireless technology and GPS you will be able to order food via a PDA and have it delivered to you where ever you are. Imagine finding a nice bench in a park and not wanting to give it up to bring back food. Now the restaurants would be able to find you and deliver food and not be limited to a specific address.

Cyber cafés have sprung up all over the globe and allow people to surf the Internet while providing coffee and snacks. These cafes are anything but social spaces. Everyone seems to be in their own world and their physical location and the people around them. Image cafes try bringing people in that space together. These places encourage you to bring your own digital camera and upload your photos for others to see. You can use this space to show pictures to friends or to try to meet people with similar interests.

Gathering

Getting a group of people together is usually a daunting task. You usually have to choose the place to meet before you actually leave and have to pick a place that everyone is familiar with. Through the use of GPS you can synchronize your mobile phones to get you to a certain place and have the technology guide you.



Shopping

"Shopping is the glue by which public activities are put together (McCullough)." It is the activity that can best define individual's interests. Retail companies are now able to personalize your shopping trip by suggesting items that they think will interest you based on past purchases. Firefly was one of the earliest inference engines for monitoring personal taste and was developed in the mid 1990s. Now this concept is available on many retail websites.

This idea can be brought back into the physical market place through pervasive computing. The majority of purchases you make at a mall are not premeditated. The more time you spend in a store, the more you buy. Your credit cards knows what type of person you are, so if you were able to swipe that card before entering a store, the database would be able to recommend products for you.

Mobile Clubbing

Sporting

Technology has become our personal trainer. Clothes are available that are equipped with body monitoring instruments that measure your heart rate, how far you are running and how many calories you are burning. Apple recently released a sensor that sits in your Nike shoe that is able to tell how far you have ran and is able to adjust songs to your pace. When you are done running, you can use the program that the I-pod sensor comes with to track your progress. You can also upload this information to the Internet and race friends all across the globe.

Entertaining

In a world were entertainment is available on the individual level, through MP3 players and portable DVD players, how do we bring people back together on a social level?

In London, England there is a new craze going on called mobile clubbing. This past October, hundreds of people gathered at the Liverpool Street station in London. Each person had MP3 players and was listening to their own music among a crowd doing the same thing. It was seen as a silent club from outsiders because the music was only available on the individual level. Details of the event, such as time and venue were sent by E-mail. This type of activity uses personal devices to create a social experience.

Touring

Big cities have always been a major draw for tourists. Walking around New York City you are confronted with all different types of tour groups, traveling in buses or by foot. Tour Guide companies are developing context-sensitive tourist guide using radio communication to hand-held computers (Cheverst). Using this type of geo-coded information will change the way tourism will be handled in the future.

Walking

Designers of mobile technology have to develop technology that is small enough to comfortably walk with. In order for a devise to completely disappear, it must not be present when we are walking around. The I-pod has become so popular because it is small enough to disappear and its interface is easy enough to use even when walking through city streets.

Activating Site Through Surface

Replacing Objects with Surface

Surface Types

Replacing Objects with Surface

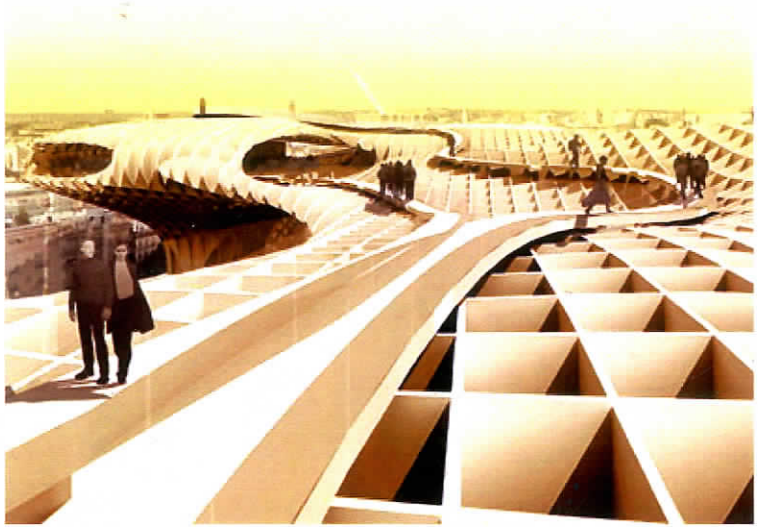
Surfaces define our world by providing a place that is optimal for activity. Walls create privacy between people and the outside world, benches provide a place to sit and read and stairs allow us to transition through two spaces not on the same ground plane. Each one of these surfaces has a specific function but is also used for other activities. Stairs are used as places to sit when benches are not available and walls can be used as surfaces for display. How do we develop a surface that is so multifunctional that it becomes the character of that space?

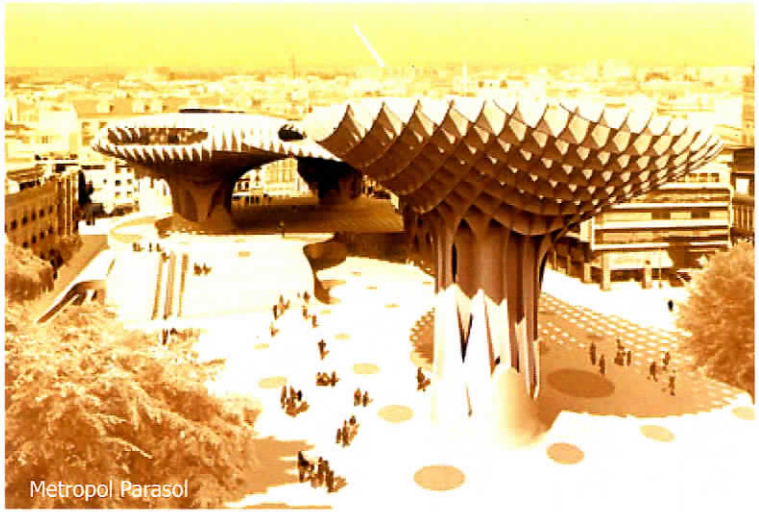
The surfaces that have been described, as well as most in our everyday lives, are objects. They can be moved or removed from a space to change the activities that occur. Objects for the most part define space. What if the ground plane is able to replace objects in our lives by providing surfaces for activities? There would be no need for objects and spaces for activities would flow into one another, creating a continuous band of activities.

A public park would be ideal for experimenting with a continuous uninterrupted surface. The landscape would flow creating spaces for sitting, walking and all other activities that take place in a public space. The ground plane would create ideal surfaces for activities on the site and provide a smooth transition between events. Objects, such as benches create obstruction from other activities and would no longer need to exist.

The surface could be taken one step further in a site like Union Square, where the ground plane separates two distinct realms, the park and the subway station. The surface could be used blur the distinction between these two spaces by allowing park activities to flow into the underground space. The surface, which is the ground plane, could create spaces where events could occur both above and below ground. The park and subway mezzanine could be woven together to allow social interaction to occur in the underground network as it does in the park.

Dunescape





Metropol Parasol

SHoP architects were able to create a beach in Queens, New York for their installation at ps.1 Contemporary Art Center in the summer of 2000. They did so by first studying the activities that take place at a beach, these consisting of lounging, sitting, bathing and providing shade from the sun. They developed a certain type of surface for each activity and then combined them all in order to create their "Dunescape."

Using digital modeling software they were able to calculate the in-between spaces between the activities and create a continuous surface made of closely spaced slates. They took the slates from the digital model and used them to cut full size slates out of wood using a laser cutter. The wood slates where then pieced together on site to bring the digital model into reality. In May 1968 The situationist promised " the beach below the paving stones," and SHoP did so in this project.

Metropol Parasol was designed by Jurgen Mayer H. to create a commercial center in Seville, Spain and to allow access to Roman ruins below the site. The project consists of six organically shaped parasols that create access to the underground ruins as well as become a landscape that floats ninety feet above the ground.

The continuous organic form of the parasols is constructed out of laminated timber in a three dimensional grid. Using the grid they are able to create organic forms using orthogonal pieces. Since the surface is made of a structural grid and is not solid, light would be able to reach the ground below the surface.

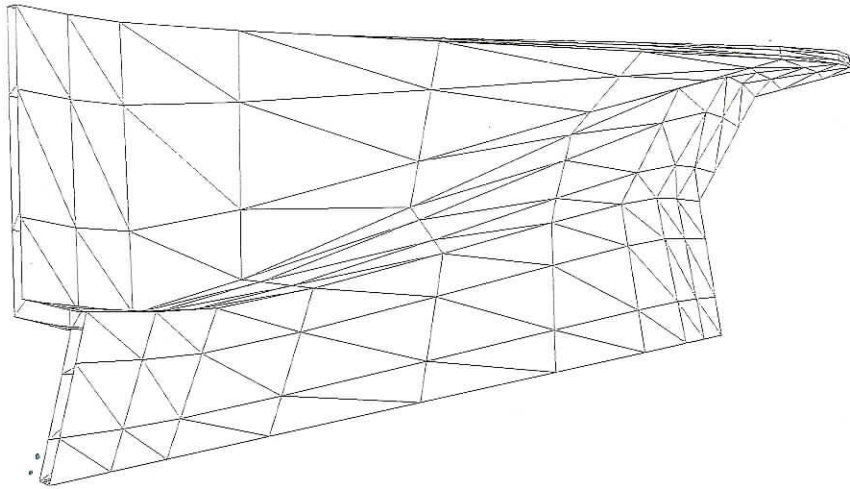
Surface Types

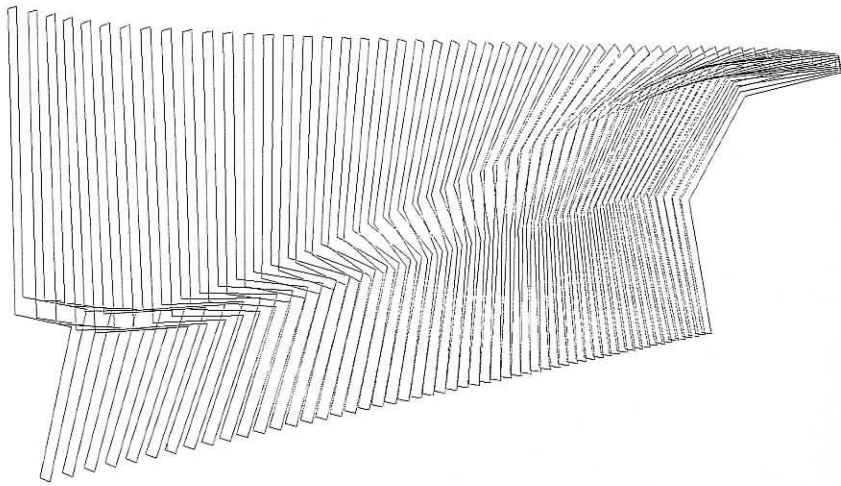
Fold - Events or articulations in a smooth and undifferentiated surface.

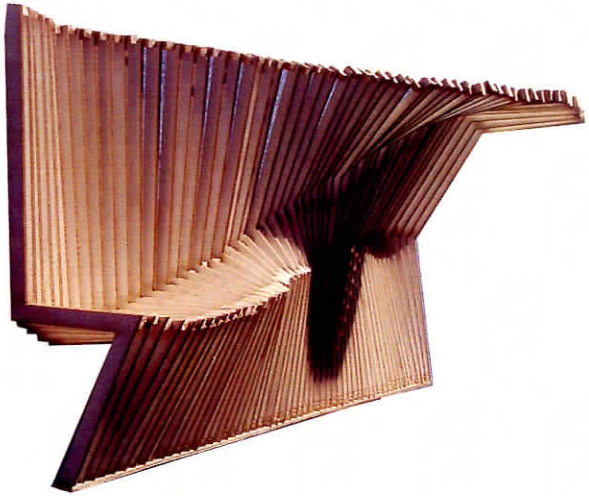
Folds can activate an ordinary flat surface, creating a surface that sets up events. By combining this idea with the concept of animation, a continuous surface that changes through the space can be created. Animation doesn't necessarily deal with motion, but implies the evolution of a form and its shaping forces (Lynn).

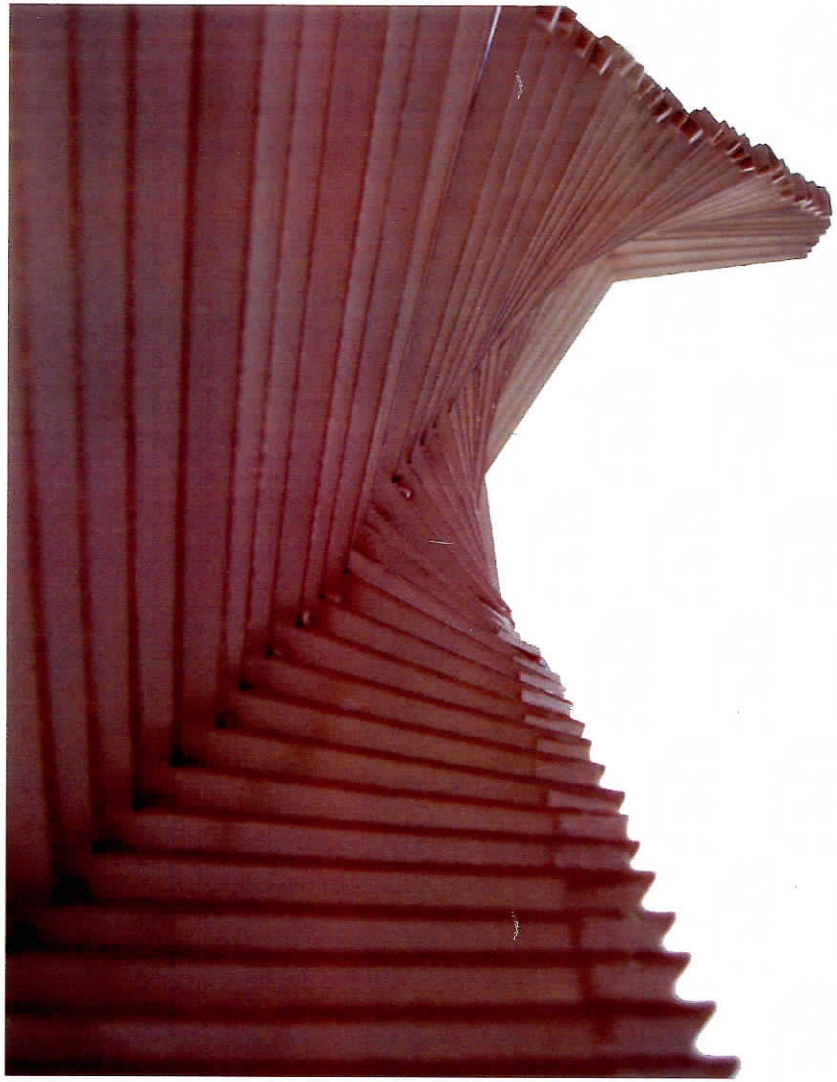
The fold becomes a fold over time. Take for example that you want to design a wall outside that allows people to sit and read, allowing sunlight to be available and a place to stand in the shade. These two events are completely different and require a specific type of space to allow for an optimal experience. By folding the surface you can create a seat built right into the surface or you could create a canopy to shade you from the sun.

To combine these two activities you would use the idea of animation. Using animation software you can create key frames, which allows the sitting surface to morph into the shading surface. Using key frames, you create two frames, one at the beginning of the timeline and one at the end, and the computer fills in what is in-between. The surface that forms from the seat to the shaded are would be formed through this process. This surface can then broken into sections and then cut using a laser cutter to bring it from the computer into reality. This concept can be used for the redesign of Union square in the sense that the surface of the park could replace the need for park benches, tents for the farmers market, fences for the dog run, and allow for a more dynamic space. The surface would become the activities and perhaps define new ones.





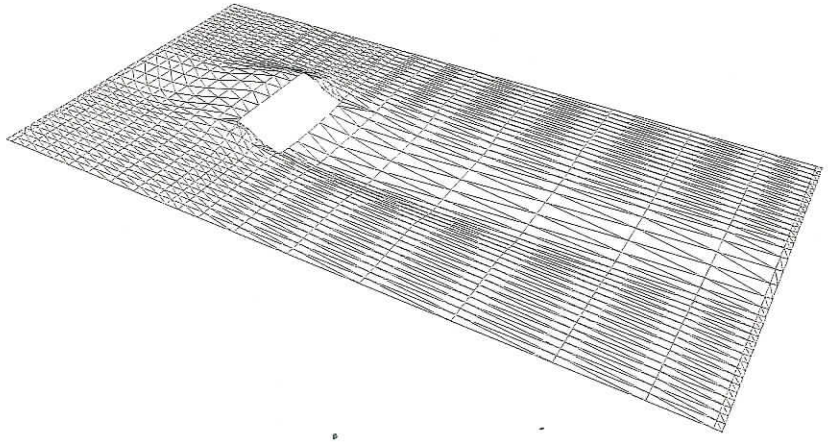


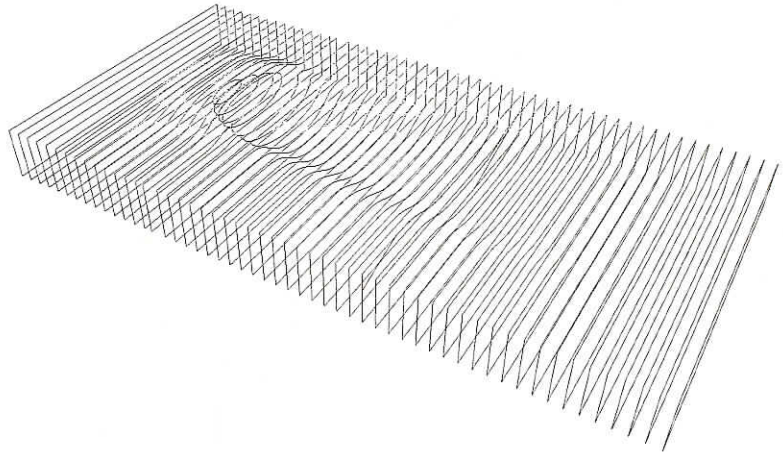


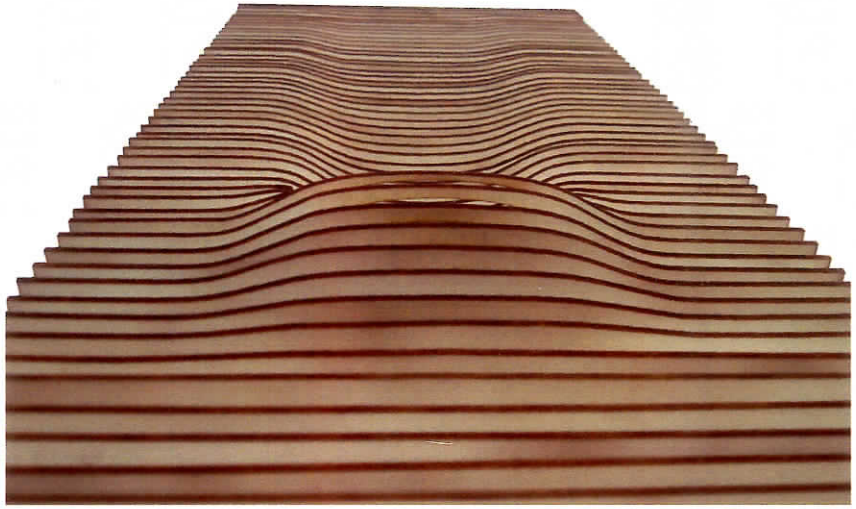
Cut - Breaks in a continuous surface to allow for an intermediate zone.

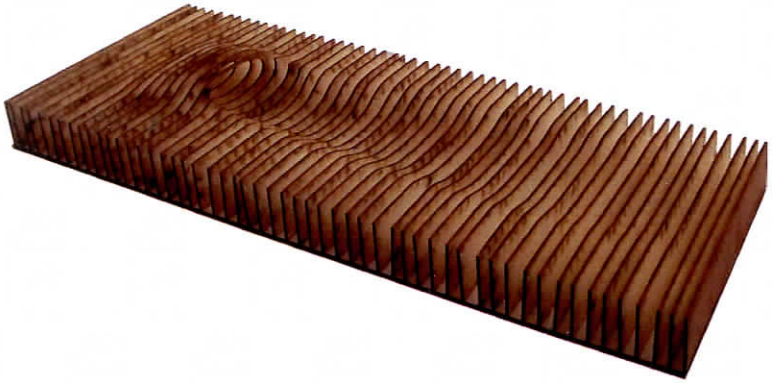
The idea of cutting a surface is used constantly in architecture in creating windows and doors. This concept can also be used in creating two spaces using one surface. If you make a cut in a piece of paper, you still have one continuous surface. By folding the paper from the cut, you create two different events that occur on the same piece of paper.

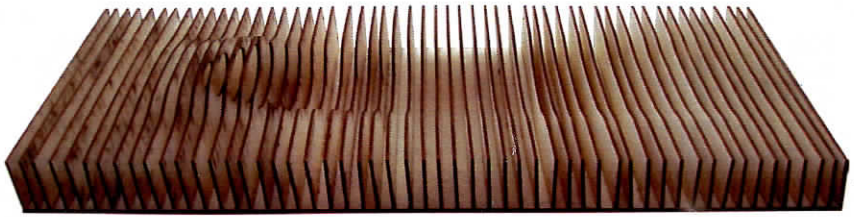
Union Square exists as two separate spaces, the park and the subway station that exist in relationship to one surface. If this surface was cut and folded, it would allow the distinction between these two spaces to be blurred. Park activities, as well as natural air and light would be able to filter into the subway and allow it to exist as more of a social space.









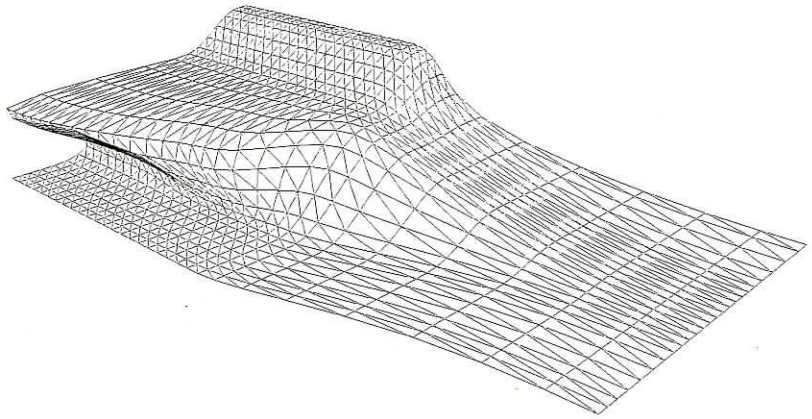


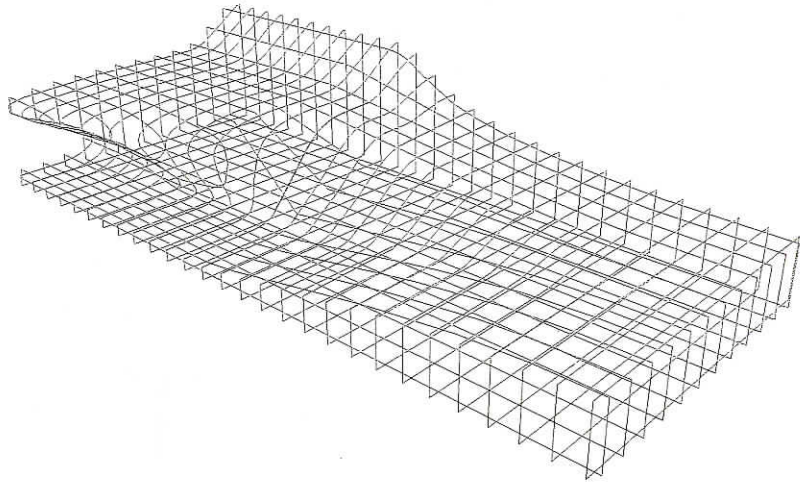
Weave - Compose a connected whole by interlacing surfaces.

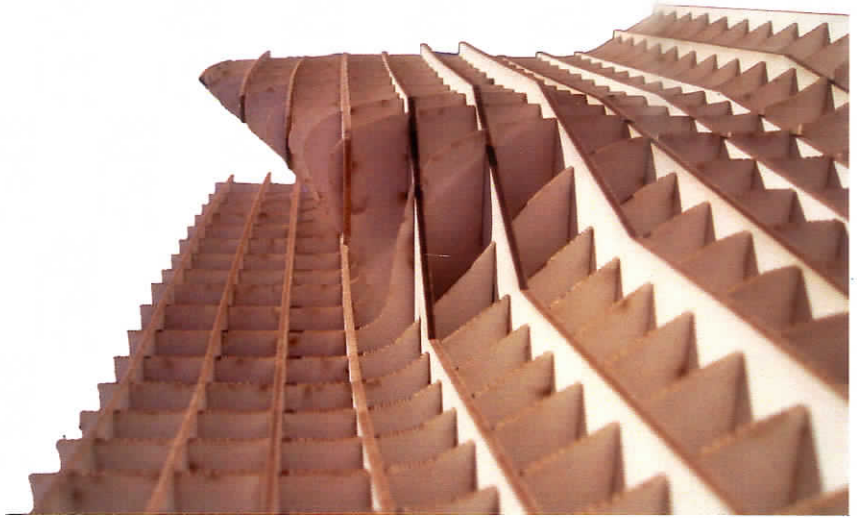
Through the use of digital modeling software, designing complex forms is as easy as ever. Architects seem to forget that to build these designs takes a lot of time and money. Architects for the most part design forms with no idea how they would be built or assembled.

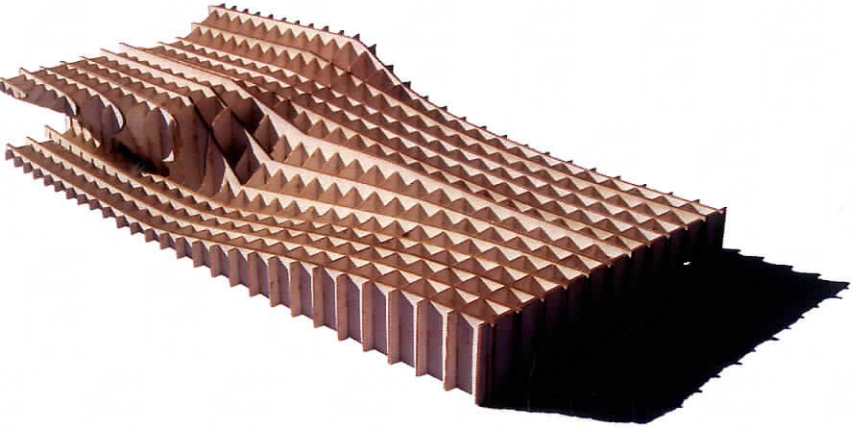
Through the concept of weaving a complex surface can be created by taking that digital model and cutting it into sections in two directions. Each section could then be numbered, laser cut and assembled as if they were a part of a puzzle. Instead of designing the shape of a building we could use the computer to design the structure and how everything goes together. The surface would be defined by weaving these pieces together in order to create the complex form.

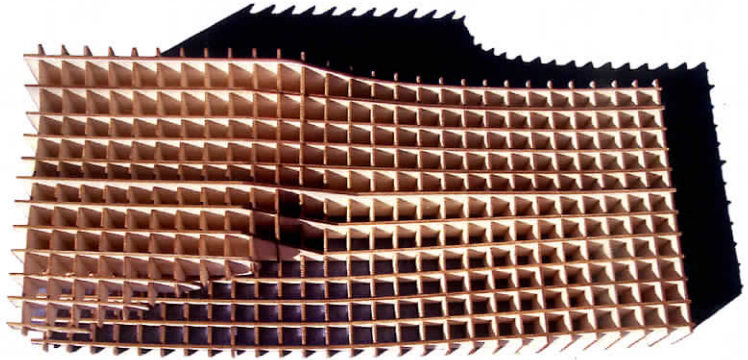
This technique could be used to redesign the surface that separates the park at Union Square from the subway station. By using a woven system instead of a solid surface, light and air would be able to fully penetrate into the underground space. It would also allow the surface to create spaces where specific events would take place. All of the events that take place in Union square depend on a specific type of surface for optimal use. This surface could form these surfaces and allow the park not only to morph from activity to activity but also from aboveground to underground.











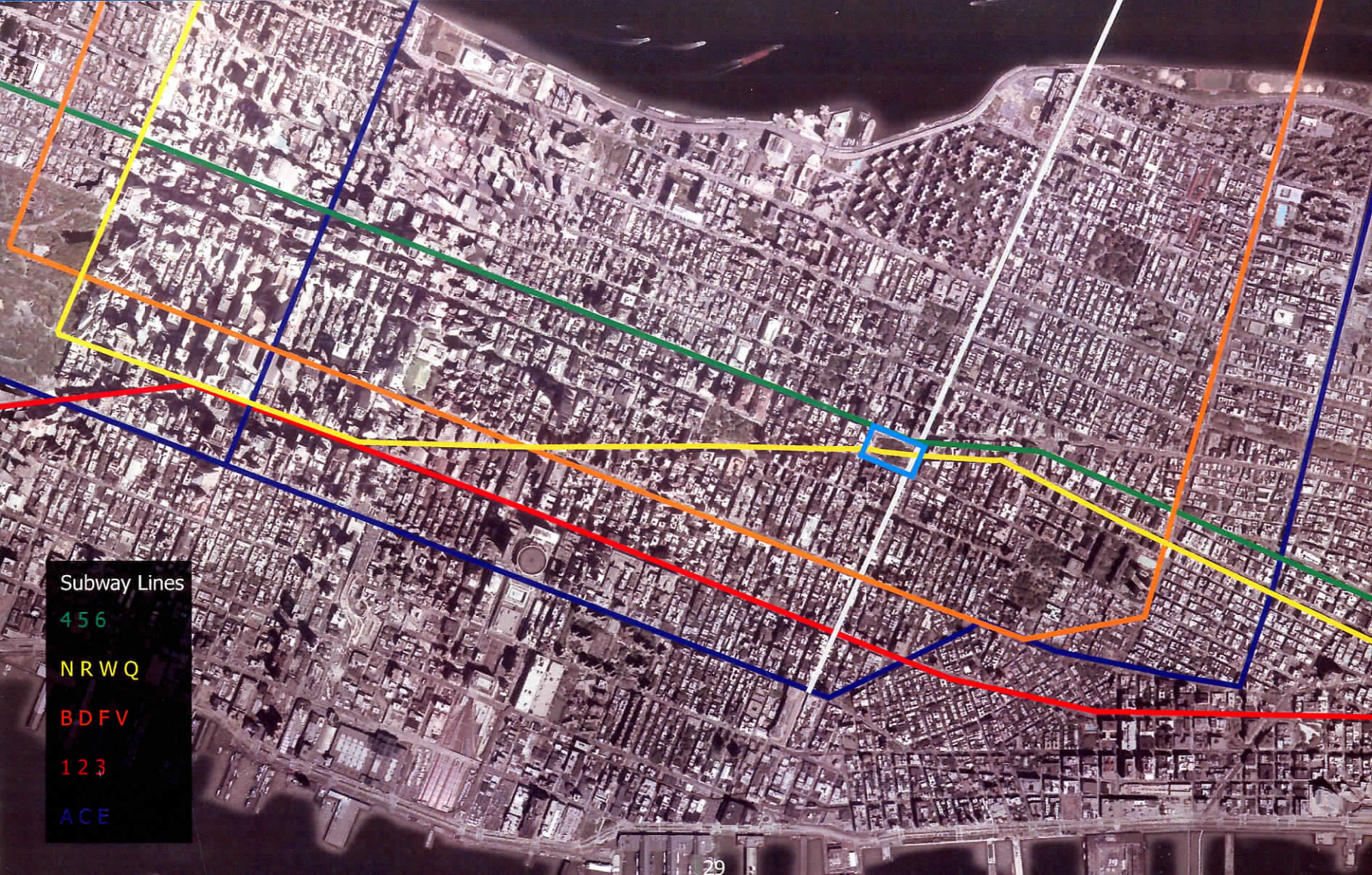
Digitally Mediated Social Space:
Union Square, New York

The Site

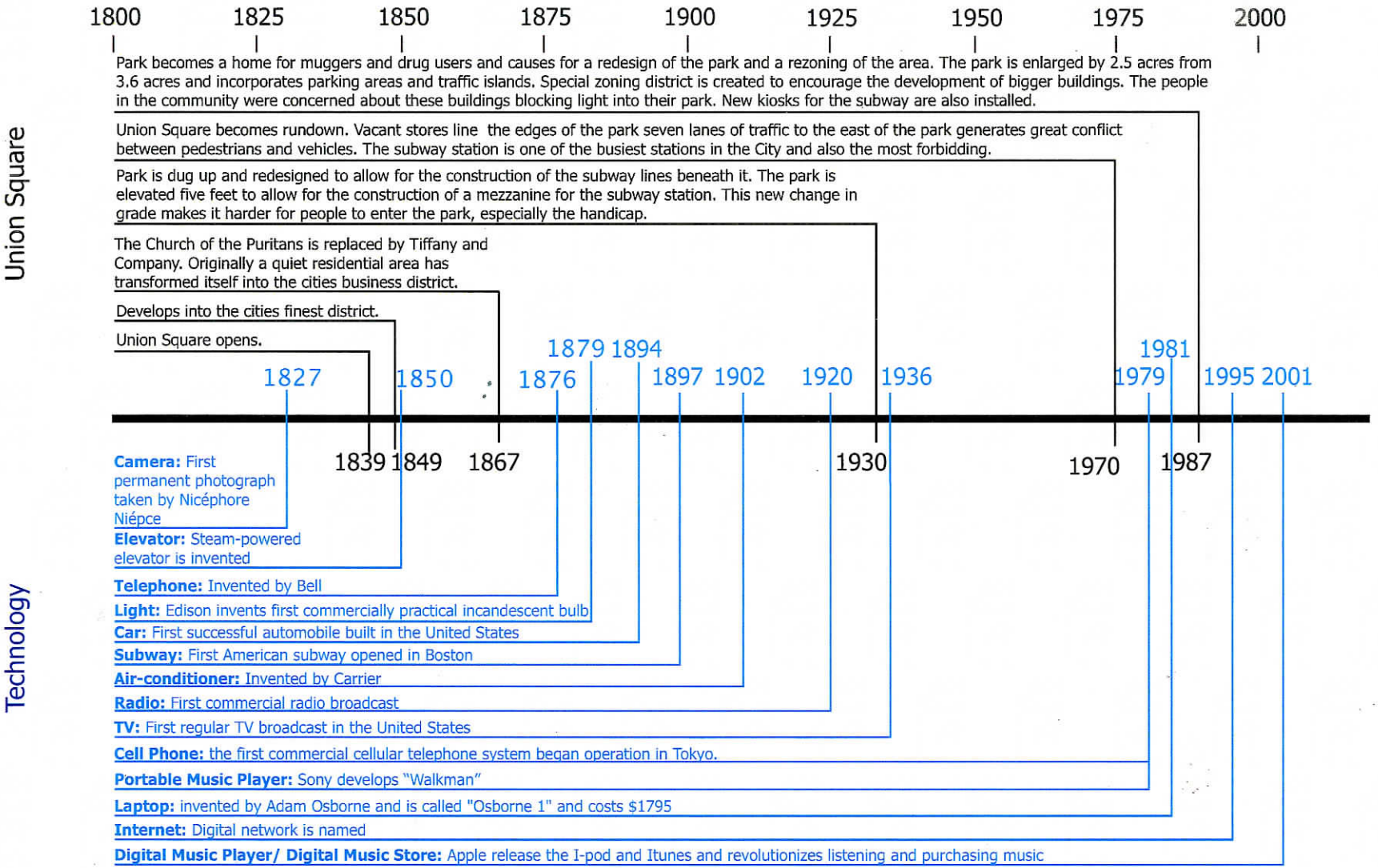
The Program

Union Square, New York


BASEMENT
DSW
FOREVER 21
Union Square
Subway


Subway Lines
4 5 6
N R W Q
B D F V
1 2 3
A C E

Timeline


1800
1825
1850
1875
1900
1925
1950
1975
2000
Union Square
Park becomes a home for muggers and drug users and causes for a redesign of the park and a rezoning of the area. The park is enlarged by 2.5 acres from 3.6 acres and incorporates parking areas and traffic islands. Special zoning district is created to encourage the development of bigger buildings. The people in the community were concerned about these buildings blocking light into their park. New kiosks for the subway are also installed.
Union Square becomes rundown. Vacant stores line the edges of the park seven lanes of traffic to the east of the park generates great conflict between pedestrians and vehicles. The subway station is one of the busiest stations in the City and also the most forbidding.
Park is dug up and redesigned to allow for the construction of the subway lines beneath it. The park is elevated five feet to allow for the construction of a mezzanine for the subway station. This new change in grade makes it harder for people to enter the park, especially the handicap.
The Church of the Puritans is replaced by Tiffany and Company. Originally a quiet residential area has transformed itself into the cities business district.
Develops into the cities finest district.
Union Square opens.
1827
1850
1876
1879
1894
1897
1902
1920
1936
1979
1981
1995
2001
1839
1849
1867
1930
1970
1987
Technology
Camera: First permanent photograph taken by Nicéphore Niépce
Elevator: Steam-powered elevator is invented
Telephone: Invented by Bell
Light: Edison invents first commercially practical incandescent bulb
Car: First successful automobile built in the United States
Subway: First American subway opened in Boston
Air-conditioner: Invented by Carrier
Radio: First commercial radio broadcast
TV: First regular TV broadcast in the United States
Cell Phone: the first commercial cellular telephone system began operation in Tokyo.
Portable Music Player: Sony develops "Walkman"
Laptop: invented by Adam Osborne and is called "Osborne 1" and costs $1795
Internet: Digital network is named
Digital Music Player/ Digital Music Store: Apple release the I-pod and Itunes and revolutionizes listening and purchasing music

The Site

Union Square exists as on of the most accessible places within New York City. Its subway station serves the west side lines (NRQ), the east side lines, (456), as well as a Brooklyn line (L). There is always a great deal of people passing through the site both above ground and below ground at all times of the day.

The area consists of a dense population of residence, employee's and students. There are about 100,000 students that are enrolled in colleges and universities in the area. An NYU dorm exists on the west side of the park as well as a building for Parson's school of design. There are six hospitals in the area, including the Isreal Medical Center located on the park's south east side. More architects are located around Union Square than in any other neighborhood in the city.

During the weekdays people going to and from work walk through the site to get to work or use platforms to transfer trains. Every weekday, over 70,000 people enter the Union Square Station alone (unionsquarenyc.org). On the weekends the park services tourist as well as people living in the city. It supplies the city with a farmers market, which consists of stands that sell fruits and vegetables from nearby farms. On a sunny day the park is filled with people, doing anything from reading, listening to music, skateboarding, or just relaxing in the sun. It creates an oasis, which tries to separate itself from the chaos of the city.

The subway station that exists directly below the park has quite a different feeling from the atmosphere above ground. The subway stations mezzanine level, which acts as a link between the three subway lines that it services, is similar to a labyrinth. You are constantly walking from long narrow spaces to open spaces that have signs and stairs that lead you in all different directions. The spaces are long because you are walking right above the tracks and opens itself up to move you to other tracks. The spaces below ground are dingy, have low ceilings, and do not allow for air circulation. They are lit only

Union Square Looking South, 1849

Union Square Looking North, 1942

Union Square Looking North, 2006

by artificial lighting, which makes the space look even bleaker.

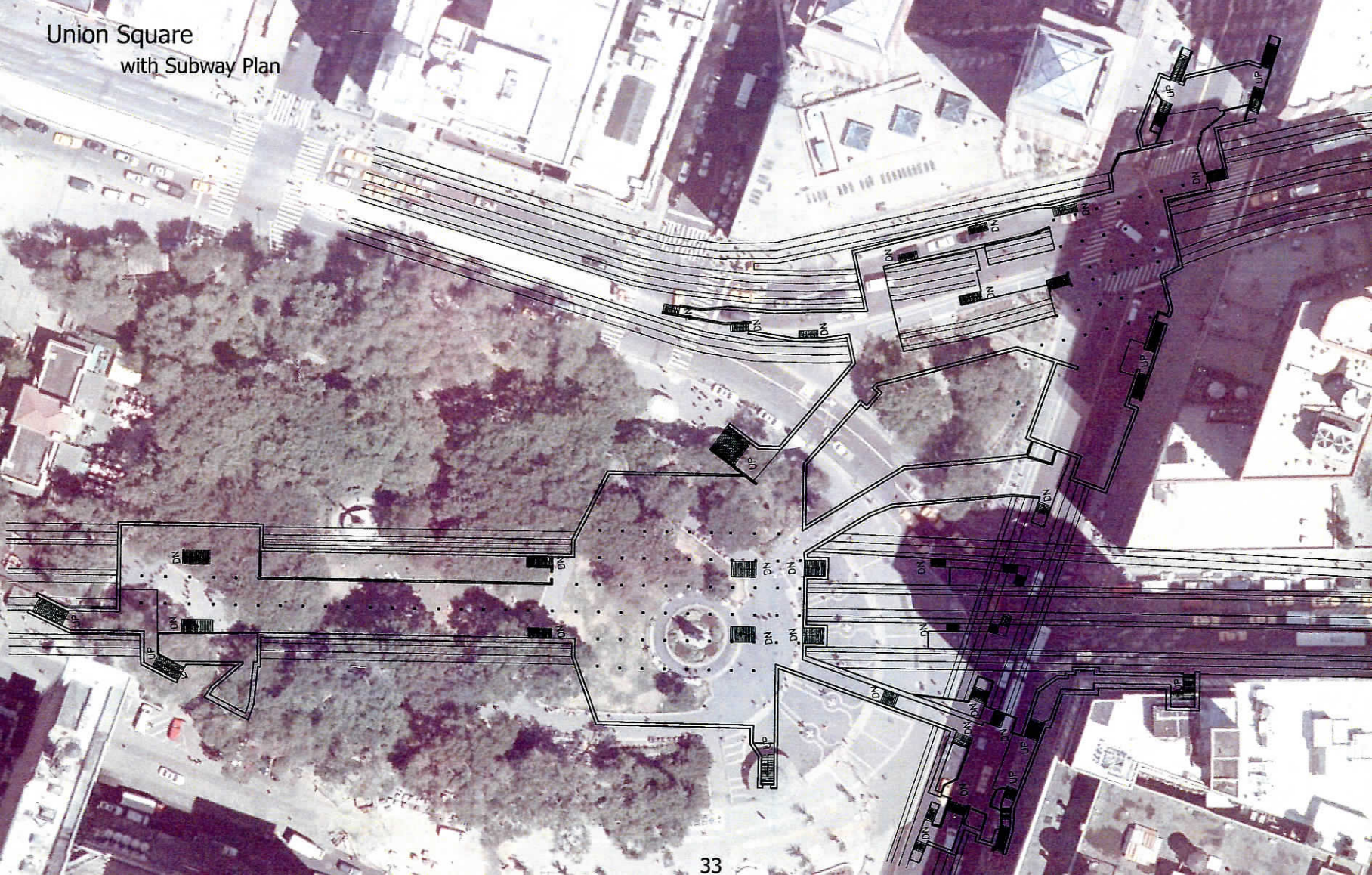
When you transfer from the park to the subway station, the social attitude changes drastically. Above ground, people are strolling through the park, seeming to not have a care in the world, and look like they are enjoying life. Below ground everyone seems to be in a rush, practically running through the station as if they know that their train is at the platform and they only have five seconds to catch it. About every two minutes a train arrives and the mezzanine level turns into the running of the bulls. Everyone is running and is willing to nock you down if you are in their way, and they are each heading in a different direction trying to get above ground as soon as possible.

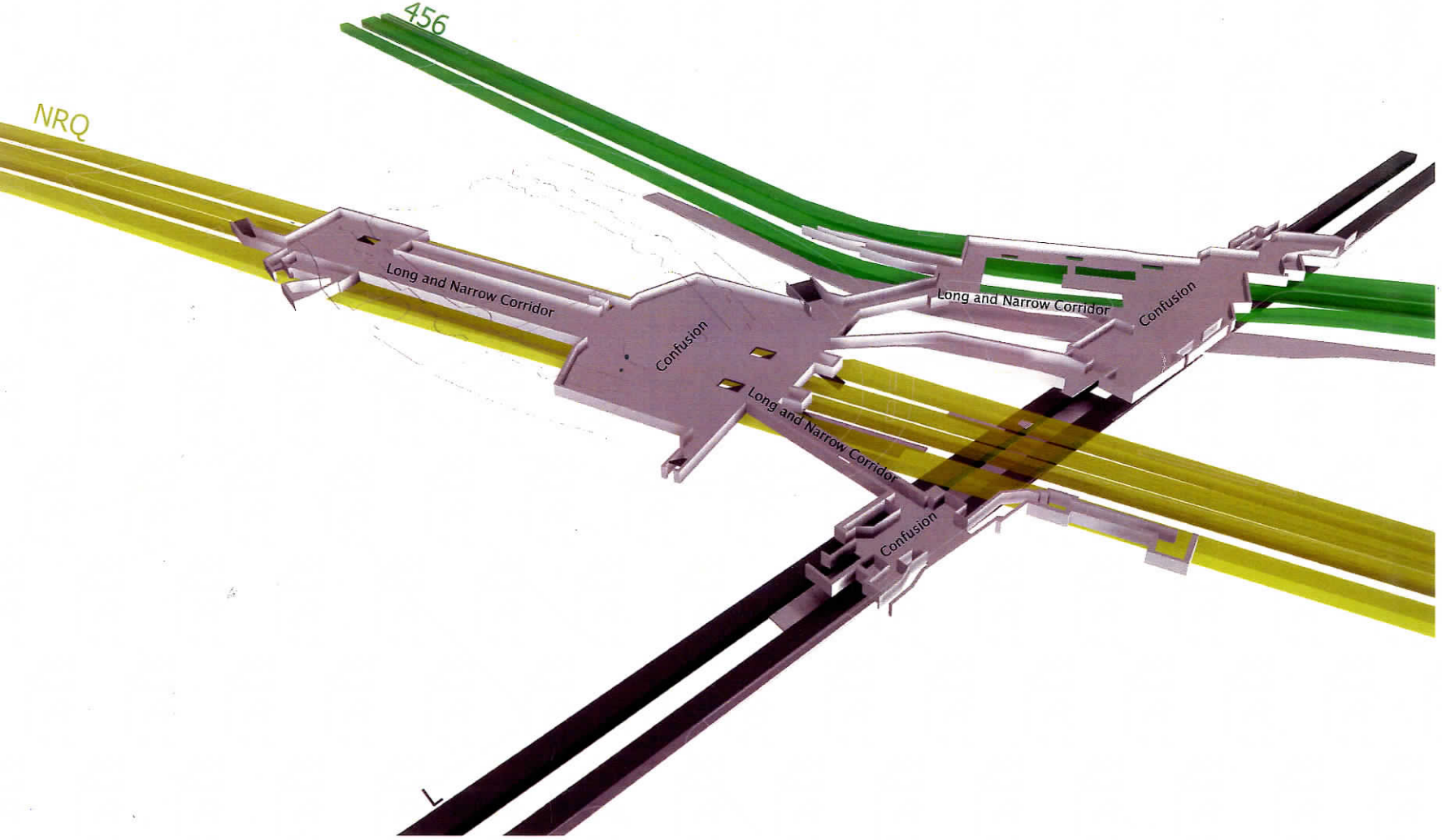
On the platforms everyone becomes an individual. Everyone is just standing around waiting for their train to come and trying not to make eye contact with anybody around. There are very few people conversing. Most of the people are just listening to their Ipods with their sunglasses on. They are located in the subway station, but in their mind they are someplace else.

Around the perimeter of Union Square exist commercial stores with either housing or office space above them, with some restaurants in between. The stores serve all your needs from, buying music at the Virgin Megastore, to reading a book and Barnes and noble, and even purchasing office supplies at Staples. People form the park filter into these stores where they can listen to music for free, or grab a drink at the café. These stores act as much as social spaces as the park does.

Union Square

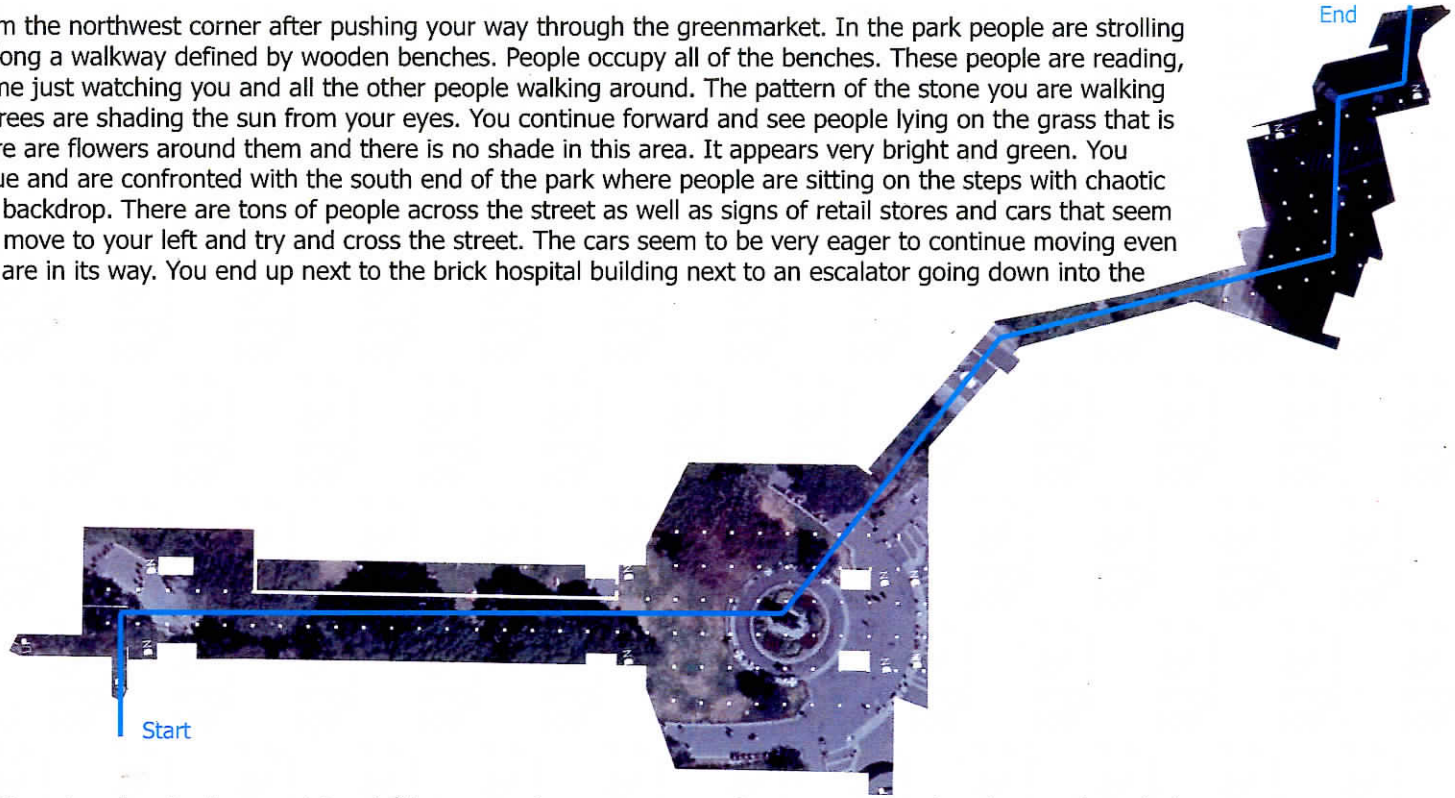
with Subway Plan




456
NRQ
Long and Narrow Corridor
Confusion
Long and Narrow Corridor
Confusion
Long and Narrow Corridor
Confusion
L

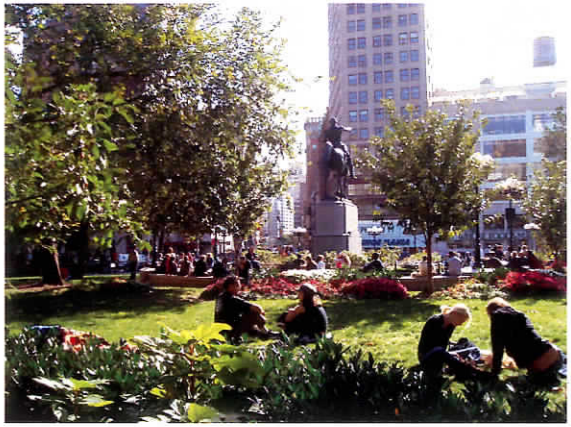
You enter the park from the northwest corner after pushing your way through the greenmarket. In the park people are strolling by you as you move along a walkway defined by wooden benches. People occupy all of the benches. These people are reading, eating, talking and some just watching you and all the other people walking around. The pattern of the stone you are walking on is hexagonal. The trees are shading the sun from your eyes. You continue forward and see people lying on the grass that is to the left of you. There are flowers around them and there is no shade in this area. It appears very bright and green. You continue past the statue and are confronted with the south end of the park where people are sitting on the steps with chaotic New York City as their backdrop. There are tons of people across the street as well as signs of retail stores and cars that seem not to be moving. You move to your left and try and cross the street. The cars seem to be very eager to continue moving even if you, the pedestrian, are in its way. You end up next to the brick hospital building next to an escalator going down into the subway station.

Above Ground

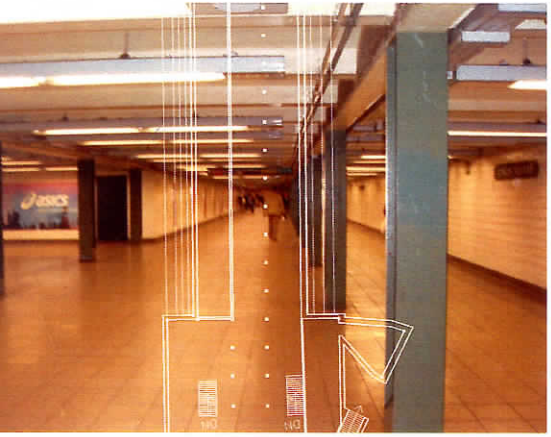


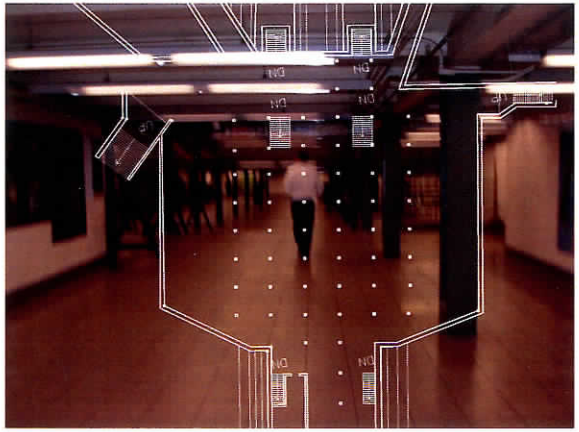
Below ground

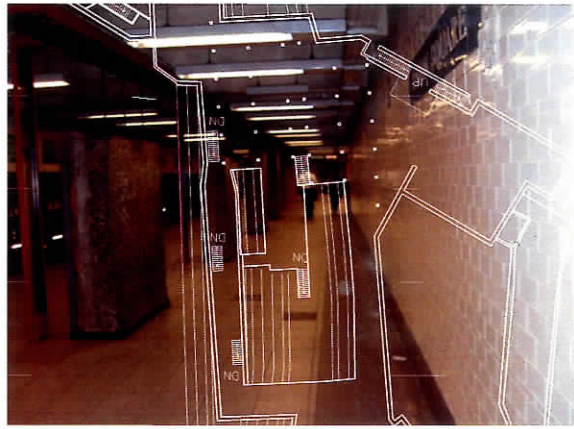
You enter from the northwest end and submerge into a lobby space where you can purchase a metro card and move through the carousels. The ceiling is quite low and crowds of people are moving at you, which add to the claustrophobia. You then enter into a long narrow space. There are green columns on either side of you that repeat them selves every fourteen feet. The ceiling grid and the one-foot rectangular tile grid on the floor add to the rhythm of the space. There are stairs on either side of you that lead down to the NRQ platform. You continue forward. You pass five signs above you that attempt to guide you. The long narrow space opens itself up into confusion. You see four sets of stairs that seem to be leading to four different trains. You have the option to go right, left, up or down. You bear left and enter another long hallway but this time people are rushing at you practically knocking you down. To your left you can see the 456 lines below you behind the metal fencing where the floor is opened up. Ahead all you can see is columns as you approach them on the diagonal. You find an exit and decide to use it. You pass through the carrousel and see a brick wall ahead. You head towards it and are overwhelmed by the fresh air. You see an escalator and enter the street level.

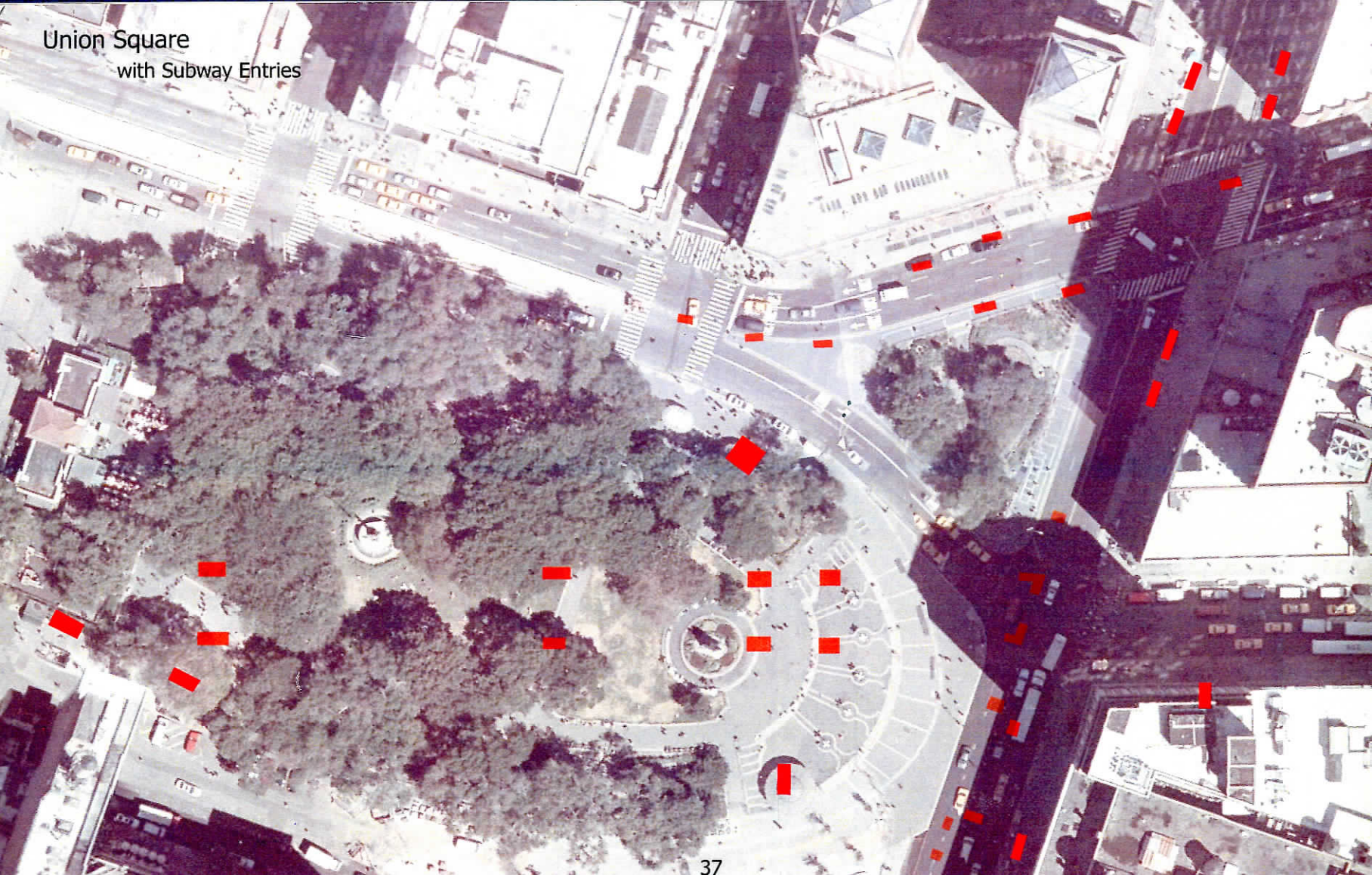


sychogeographical Map
Above and
Below Ground

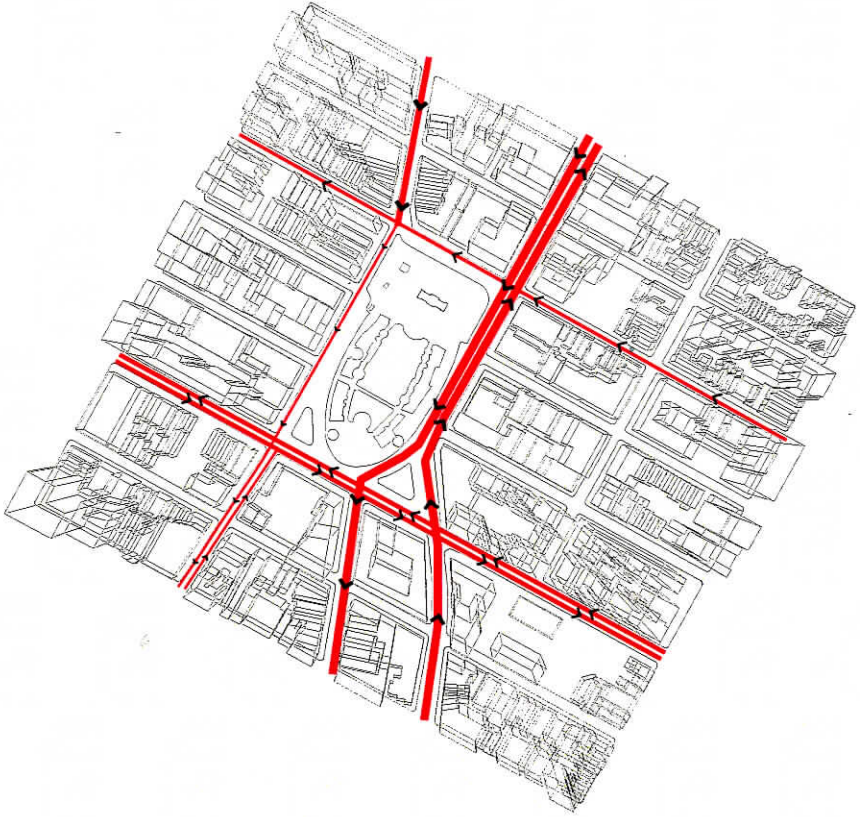






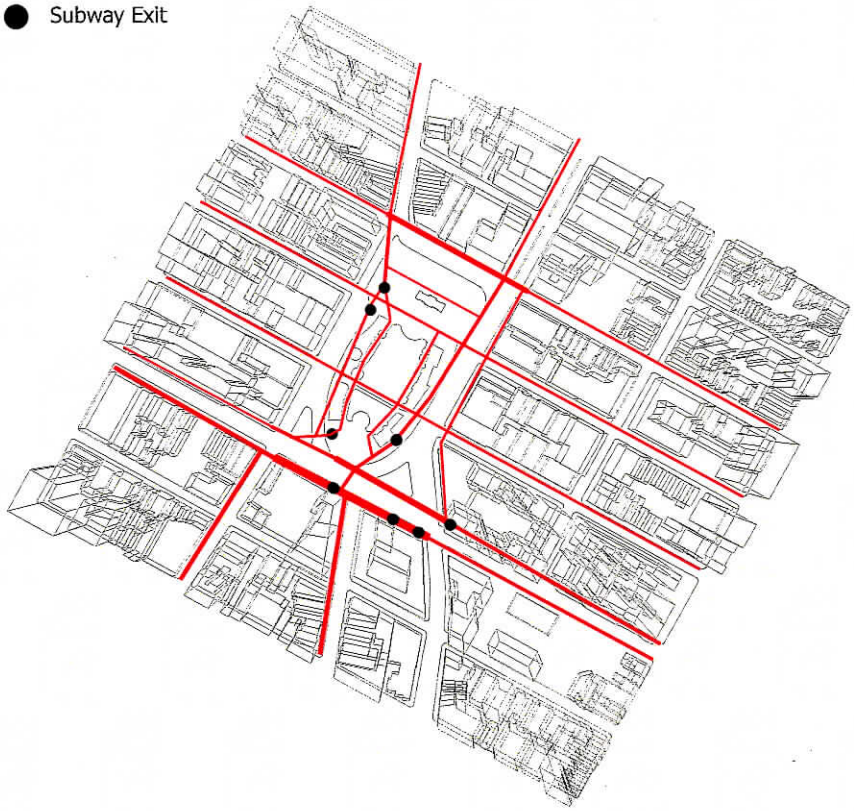

Union Square
with Subway Entries

Traffic Flow



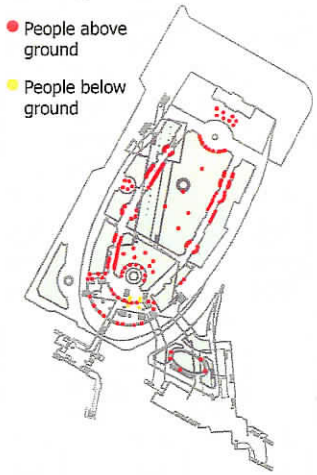
Pedestrian Flow

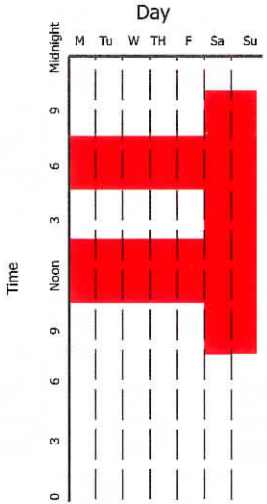
● Subway Exit

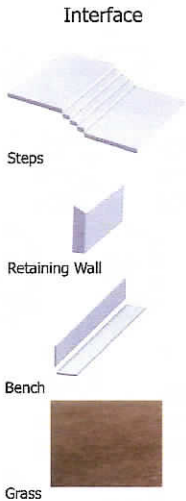


Activities

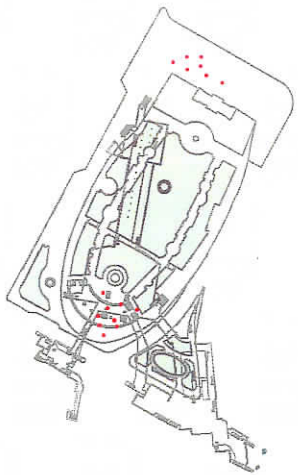
Sitting

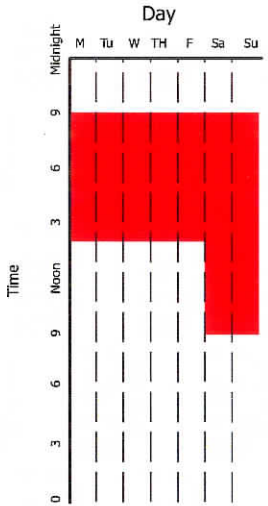


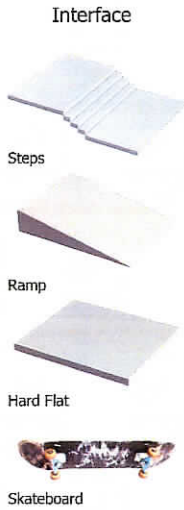




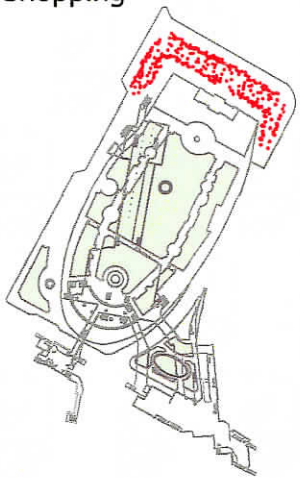
Skateboarding

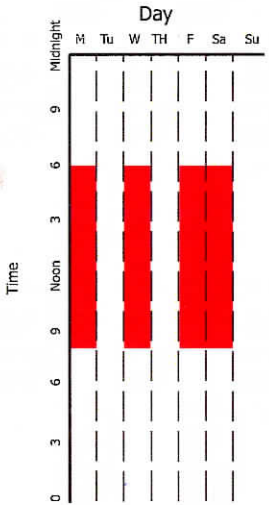




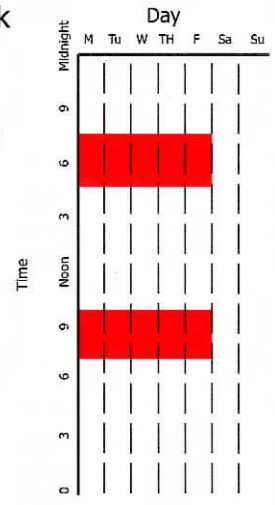


Shopping



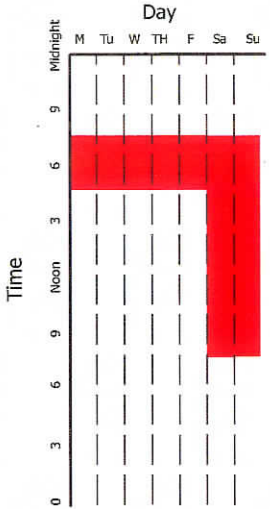


Going to and from Work



Dog Run

- People above ground
- People below ground

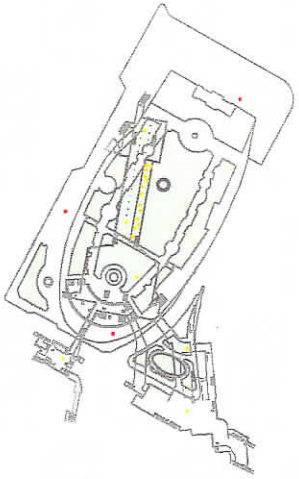


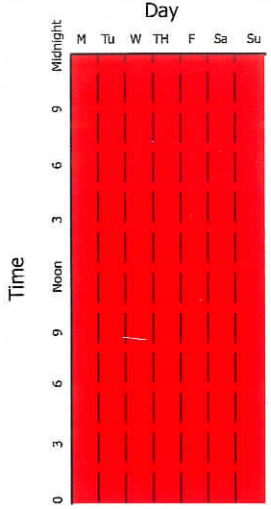
Interface

Bench

Fence

Policing

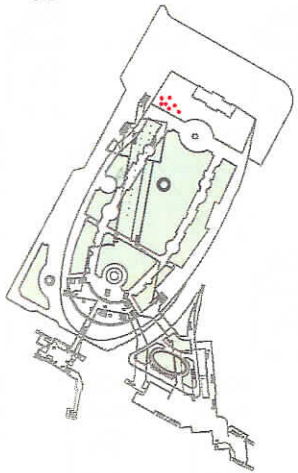


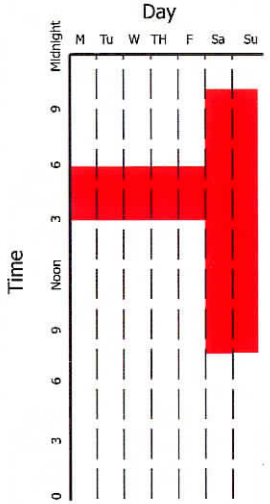


Interface

Security Cameras

Playground

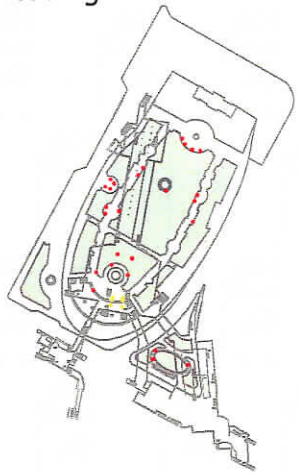


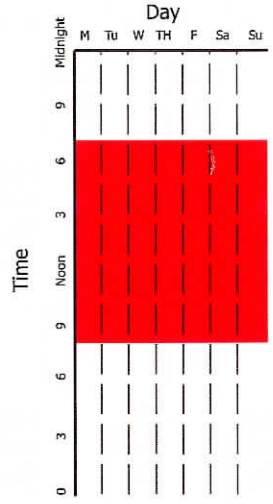


Interface

Equipment

Reading



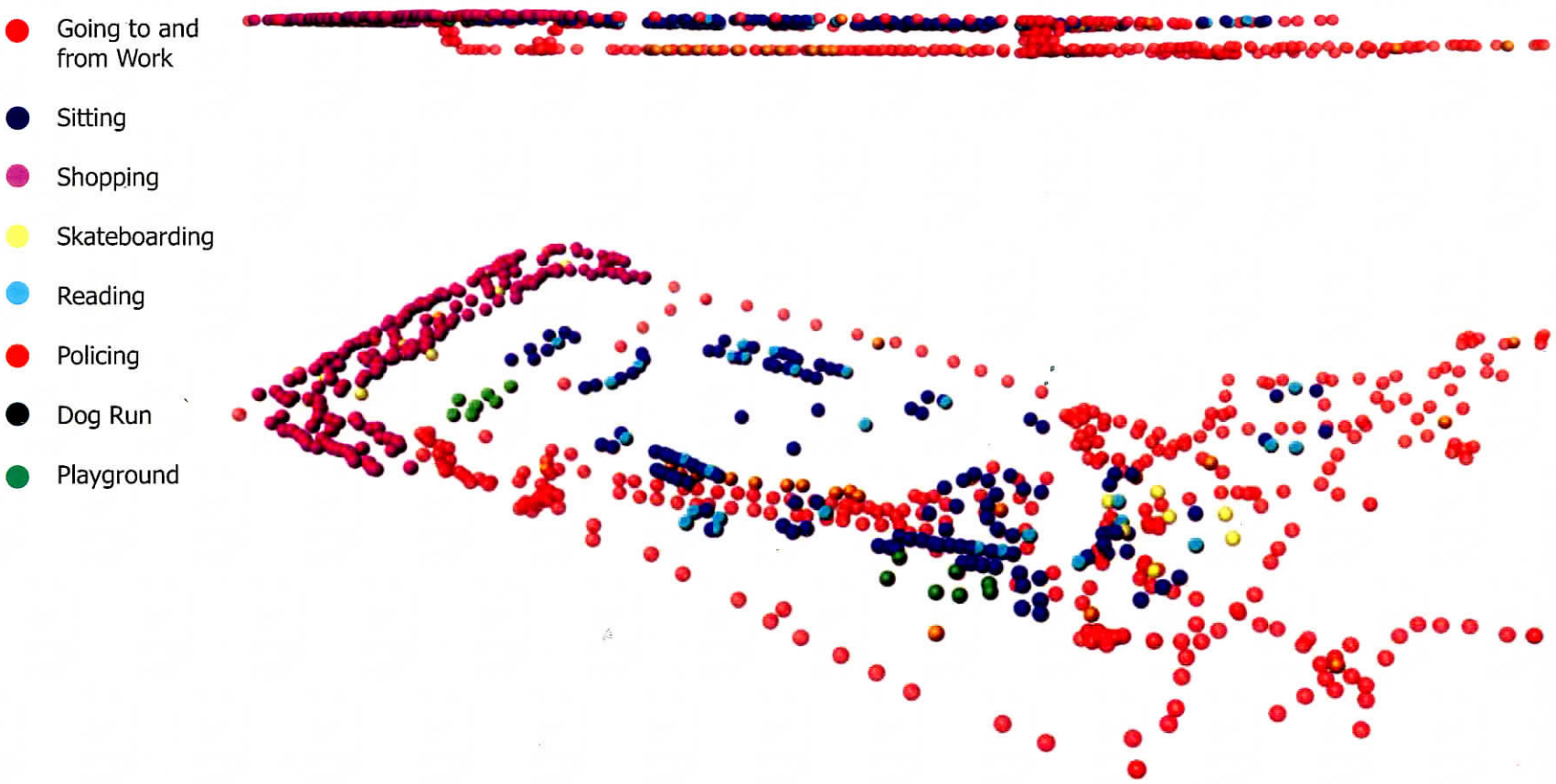


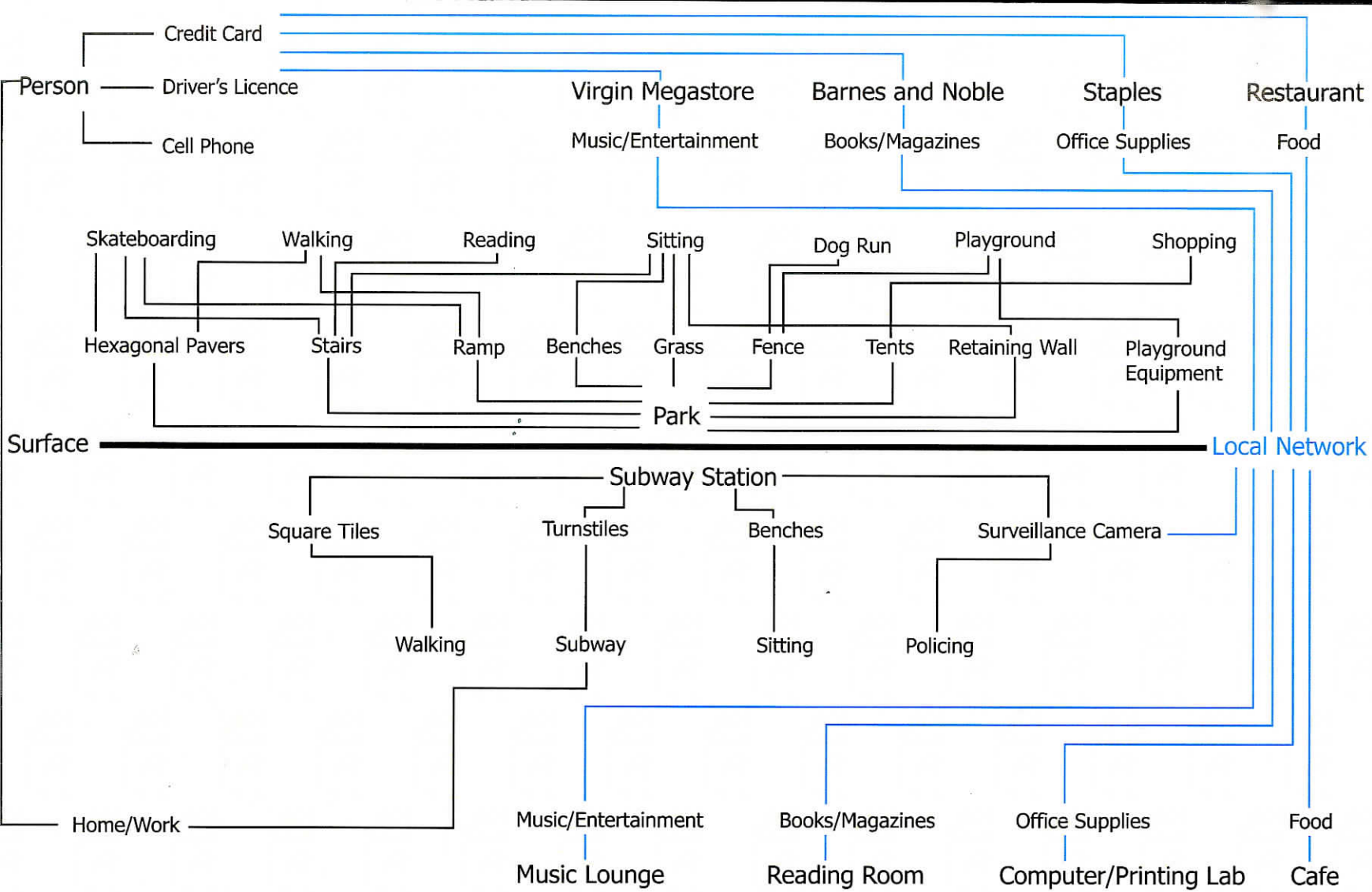
Interface

Book

Bench

Activities


Going to and from Work
Sitting
Shopping
Skateboarding
Reading
Policing
Dog Run
Playground


Credit Card
Person
Driver's Licence
Cell Phone
Virgin Megastore
Barnes and Noble
Staples
Restaurant
Music/Entertainment
Books/Magazines
Office Supplies
Food
Skateboarding
Walking
Reading
Sitting
Dog Run
Playground
Shopping
Hexagonal Pavers
Stairs
Ramp
Benches
Grass
Fence
Tents
Retaining Wall
Playground Equipment
Park
Surface
Local Network
Subway Station
Square Tiles
Turnstiles
Benches
Surveillance Camera
Walking
Subway
Sitting
Policing
Home/Work
Music/Entertainment
Books/Magazines
Office Supplies
Food
Music Lounge
Reading Room
Computer/Printing Lab
Cafe

The Program

Union Square is a major traffic area in the city, for people both traveling above and below ground, but there is no correlation between the people in the park and in the subway station. Through the use of technology and architecture, the square can be reevaluated based on physical and digital flows through the space and use them to foster human interaction.

The idea is to integrate interactive technology into the surface separating the park and subway station so that the park understands the actions of the people in the space and is able to adjust to their needs, creating a smart environment. New York City uses the square for working, playing, socially interacting and just moving through the space. All of these actions are temporal and would be understood by the square. Program would be able to disappear and reappear depe-dending on how the space was being used.

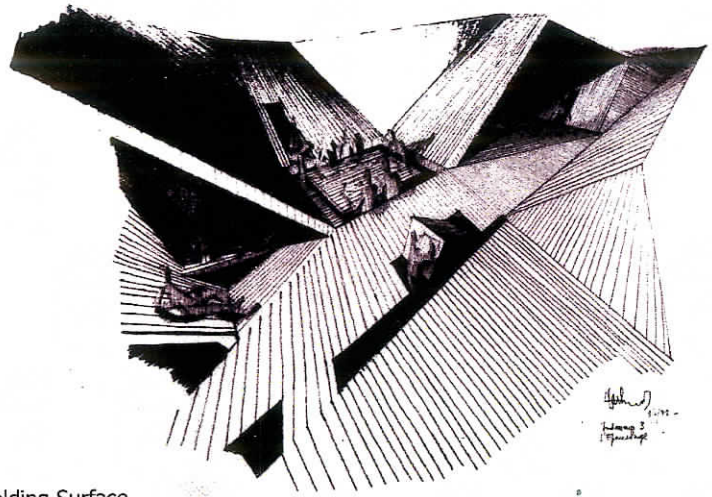
The surface of the park would be unfolded in certain places and allow the mezzanine in the subway station to breath and become more like the park above it. The surface would consist of one contious band of activities that not only connected events but also the park to the subway station. Activites normally designated for a park space would be able to filter underground and redefine the subway station as a social space. The subway station is all about movement; there is nothing below ground except for circulation spaces. Program could slow things down and allow for less chaos during the course of the day.

The program would be linked directly to the community, including residences, offices, the farmers market and retail stores through a local digital network. The commercial stores in the area do not just serve as a place to purchase products, but also serve as social centers. These social centers would be connected directly into the square through this digital network. All that would be needed is cheap generic devices to receive information in the park via a wireless con-nection from the store.

Listening Stations at Virigin Megastore

The Virgin Megastore is one of the biggest attractions on the periphery of the site, selling anything from music to movies. The biggest draw into that store is not only from people looking to buy music, but people interested in listening to music for free at one of the many listening stations. These listening stations could exist in the subway station and allow people to sample music while they wait for their train to arrive. This device could completely change the dynamic of the subway station. Take this concept and apply it to the interactive surface of the park and you are constantly updated with new music that applies to your taste. This could be applied to all retail stores in the area, including the farmers market and help to redefine what the space of Union Square can be used for.

The most important aspect about this smart environment is that it would understand people on an individual level. On-line stores understand who we are by what we have purchased from them and



Unfolding Surface

are able to recommend new items, based on what people with similar buying habits have bought. We can foster this idea into a park to promote social interaction. Social communities could develop and allow people with similar interests to come in contact with one another.

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